

Technical Guide

9th Generation Plasma Display Troubleshooting Handbook TH-37/42/50/58PX60 TH-42/50/58/65PX600 TH--42PD60U42



Panasonic Service and Technology Company
National Training

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Introduction

<Introduction>

1. Basic concept of how to determine the defective board

1) Verification of voltages

Normally, when there is a power problem, shutdown occurs immediately.

So, to resolve a power problem, voltage checks are necessary before shutdown.

2) Check if the power comes up after disconnecting the board under suspicion.

If power comes up (*) after disconnecting a board, the board is defective.

(*) "Power comes up" equals "no shutdown".

2. Troubleshooting Video and Audio problems

3. Examples of video problems

4. Adjustment after PCB exchange

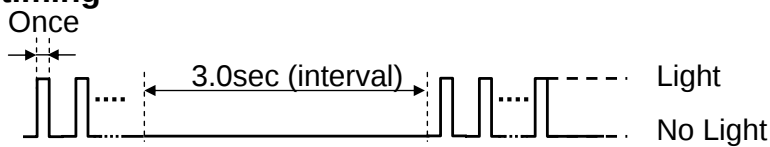
1) After exchanging the following boards, voltage adjustment is required.

P board, SC board, SS board => Please refer to the "Service Manual".

1. Troubleshooting Shutdown Problems

Power LED's Response to Shutdown Operation

<LED Blinking timing>



<Check point>

LED Blinking times	Contents	Check Point
1	Communication error	D Board
2	15V line abnormality	D Board (15V SOS)
3	3.3V line abnormality	D Board (3.3V SOS)
4	Power Supply abnormality	P Board (Power SOS)
5	5V line abnormality	D Board (5V SOS)
6	Scan Driver (1) abnormality	SC,SU,SD Board (SC Energy recovery circuit)
7	Scan Driver (2) abnormality	SC,SU,SD Board (SC Floating voltage area)
8	Sustain Driver abnormality	SS Board (SS Energy recovery circuit)
9	Panel Status abnormality	D,DG Board (Panel Status DET)
10	REG. voltage abnormality	PA, Board (PA SOS, Tuner SOS)
11	FAN abnormality	FAN
12	Voltage for sound abnormality	PA Board (Sound SOS)
20	Communication error	DT,DG Board

LED blinks 1 time

<Trouble Mode and Defective Board>

Trouble Mode	Defective Board
Communication Error	D Board

Warning: Disconnect AC Power prior to making any disconnection or connection.

<How to find the defective boards>

In this case, the defective board is D board only.

LED blinks 2 times (TH-37PX60, TH-42PD60U, TH-42PX60U\600U)

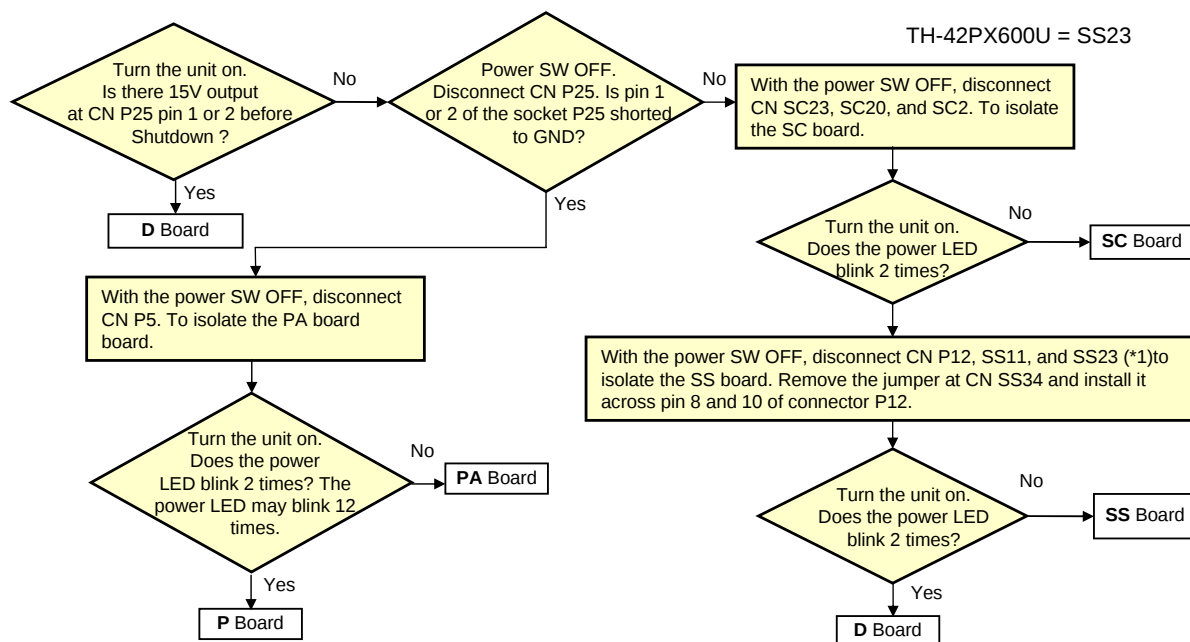
<Trouble Mode and Defective Board>

Trouble Mode	Defective Board (Possibility)
15V down SOS	P, D, PA, SC, SS Board (P > PA, D, SC, SS)

Warning: Disconnect AC Power prior to making any disconnection or connection.

(*1) = Th reference number of the sustain data connector is different in some of the models:

<How to find the defective boards>



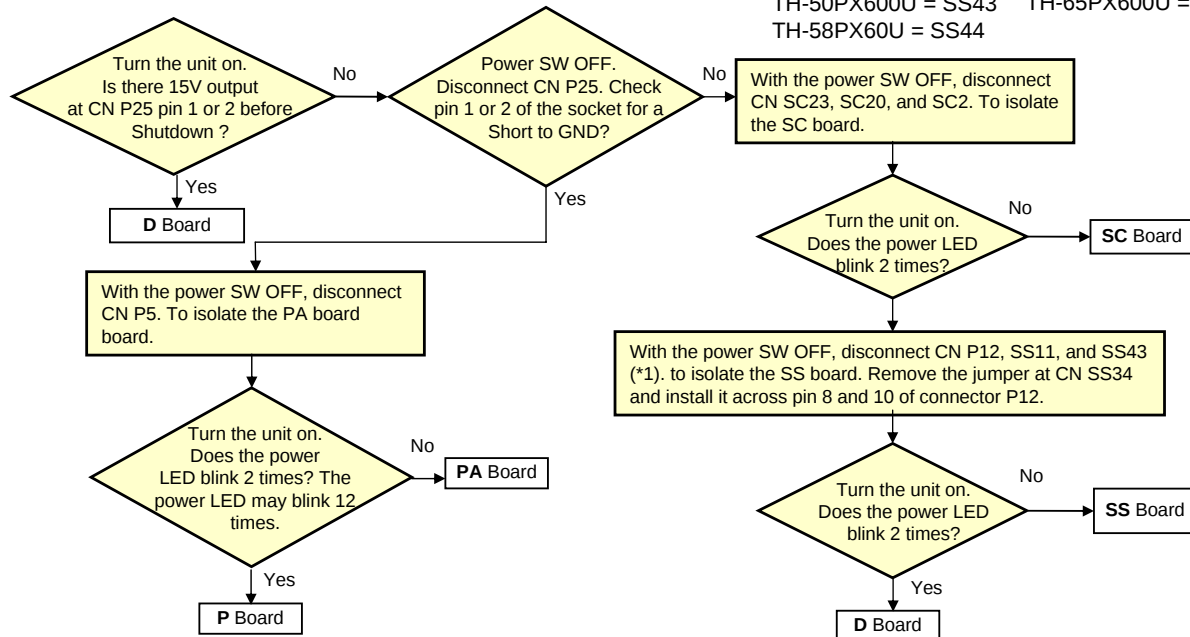
LED blinks 2 times (TH-50PX60U\600U, TH-58PX60U\600U, TH-65PX600U)

<Trouble Mode and Defective Board>

Trouble Mode	Defective Board (Possibility)
15V down SOS	P, D, PA, SC, SS Board (P > PA, D, SC, SS)

Warning: Disconnect AC Power prior to making any disconnection or connection.

<How to find the defective boards>



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LED blinks 3 times

<Trouble Mode and Defective Board>

Trouble Mode	Defective Board
3.3V down SOS	D Board

Warning: Disconnect AC Power prior to making any disconnection or connection.

<How to find the defective boards>

In this case, the defective board is D board only.

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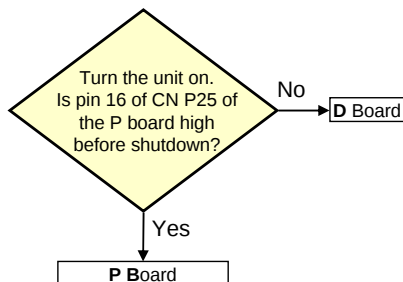
LED blinks 4 times

<Trouble Mode and Defective Board>

Trouble Mode	Defective Board
Power Supply SOS	Primarily P board or possible D board

Warning: Disconnect AC Power prior to making any disconnection or connection.

<How to find the defective boards>



LED blinks 5 times (Quick Troubleshooting)

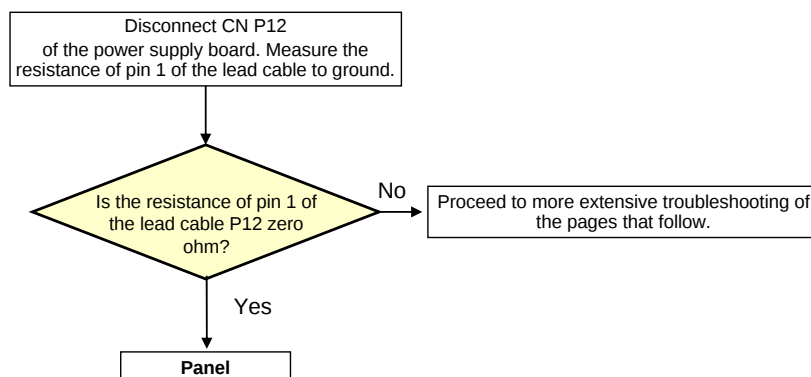
<Trouble Mode and Defective Board>

Trouble Mode	Defective Board
5V SOS	D, P, C, SC, SS board or Panel (DDIC)*1

Warning: Disconnect AC Power prior to making any disconnection or connection.

(*1) = Data Driver IC

<How to find the defective boards>



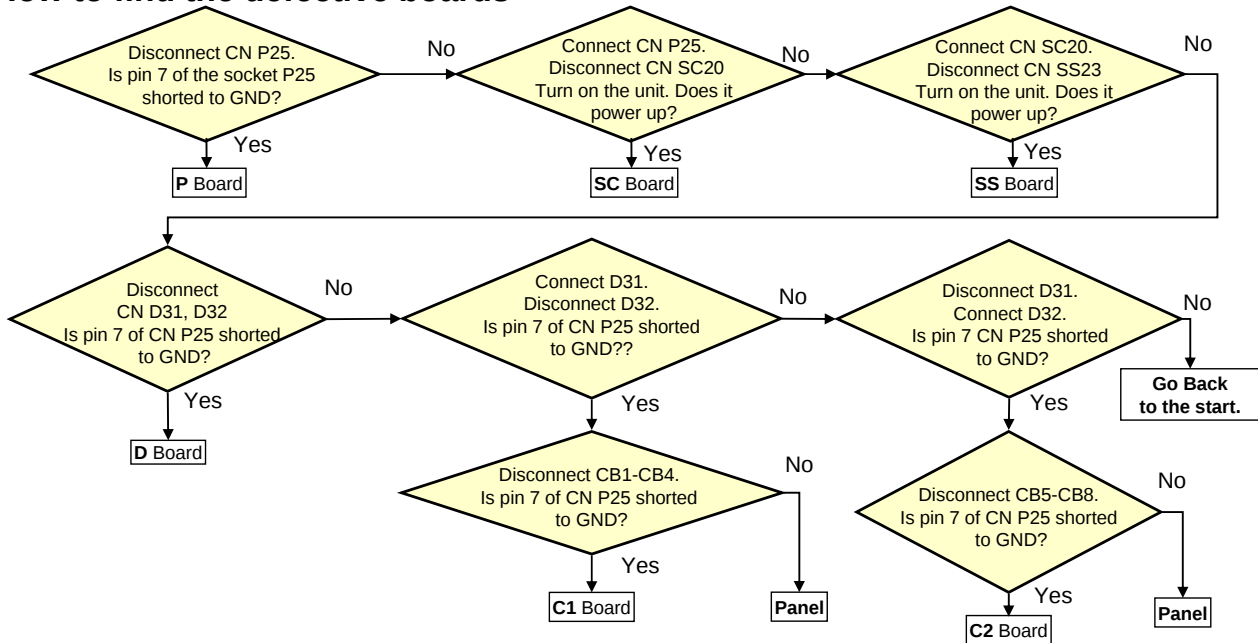
LED blinks 5 times (TH-37PX60U, TH-42PX60U and TH 42PX600U)

<Trouble Mode and Defective Board>

Trouble Mode	Defective Board
5V SOS	D, P, C, SC, SS board or Panel (DDIC)*1

Warning: Disconnect AC Power prior to making any disconnection or connection.

<How to find the defective boards>



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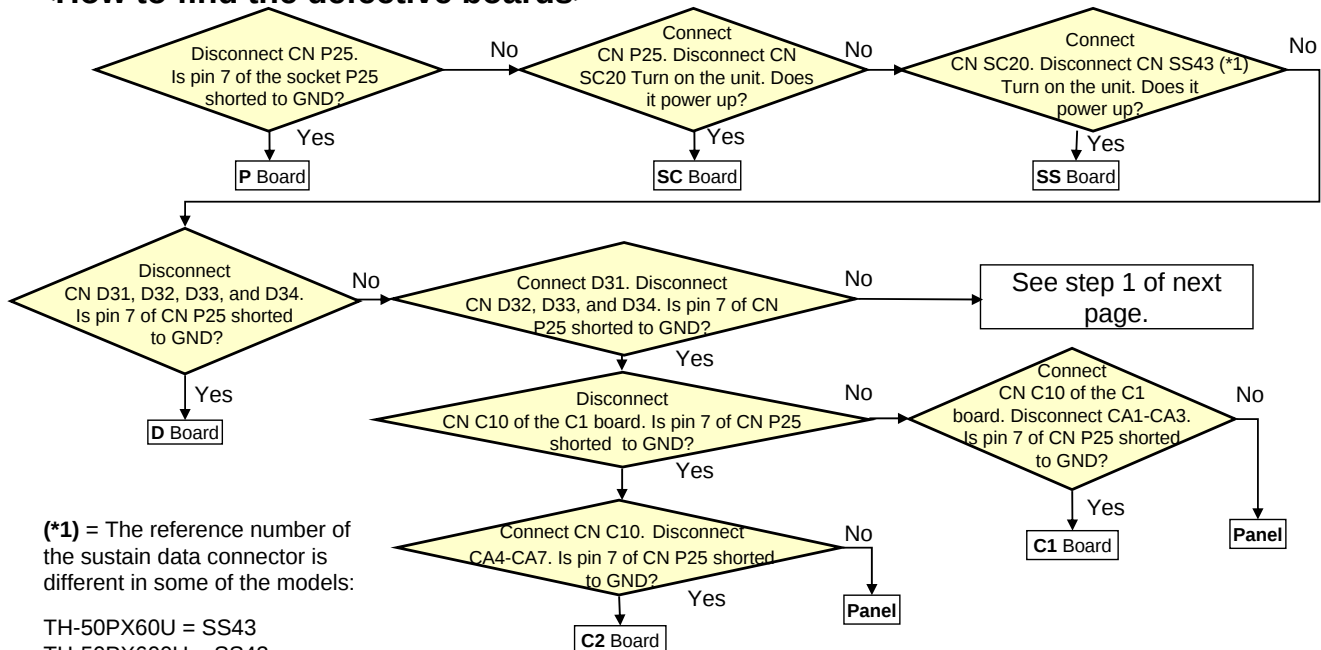
LED blinks 5 times (TH-50PX60U and TH 50PX600U)

<Trouble Mode and Defective Board>

Trouble Mode	Defective Board
5V SOS	D, P, C, SC, SS board or Panel (DDIC)*1

Warning: Disconnect AC Power prior to making any disconnection or connection.

<How to find the defective boards>



(*1) = The reference number of the sustain data connector is different in some of the models:

TH-50PX60U = SS43
TH-50PX600U = SS43

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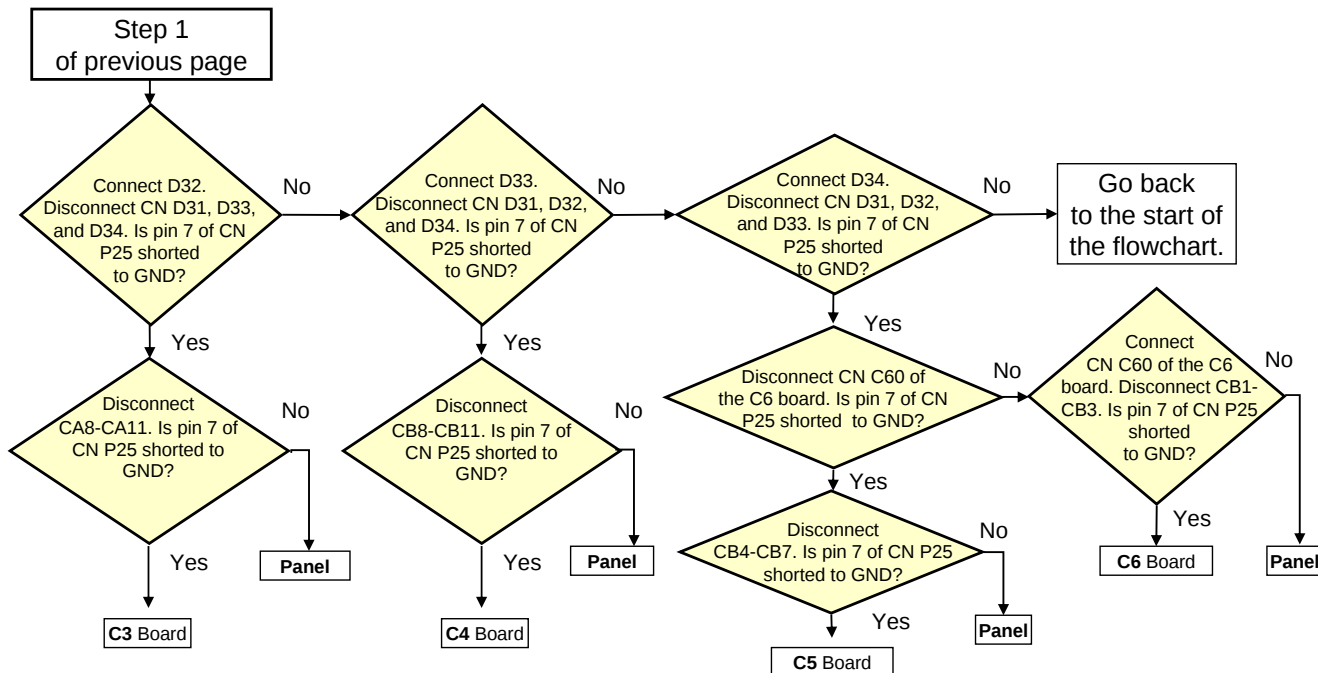
LED blinks 5 times (TH-50PX60U and TH 50PX600U)

<Trouble Mode and Defective Board>

Trouble Mode	Defective Board
5V SOS	D, P, C, SC, SS board or Panel (DDIC)*1

Warning: Disconnect AC Power prior to making any disconnection or connection.

<How to find the defective boards>



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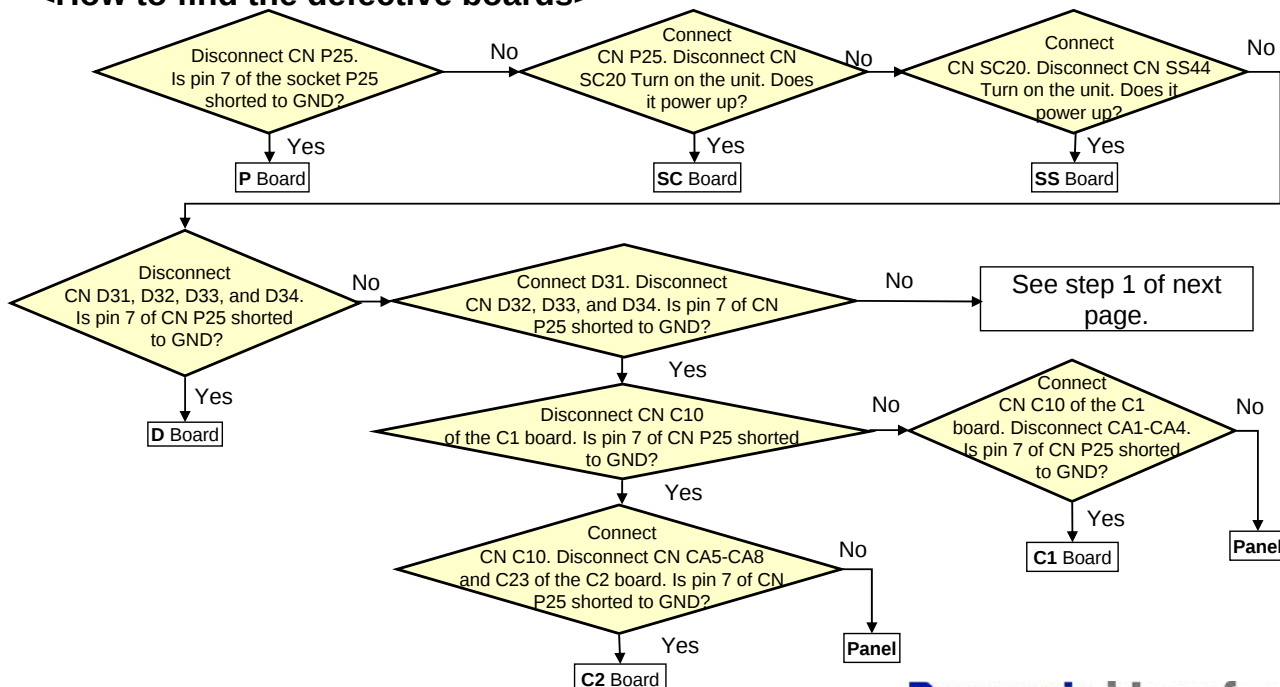
LED blinks 5 times (TH-58PX60U and TH 58PX600U)

<Trouble Mode and Defective Board>

Trouble Mode	Defective Board
5V SOS	D, P, C, SC, SS board or Panel (DDIC)*1

Warning: Disconnect AC Power prior to making any disconnection or connection.

<How to find the defective boards>



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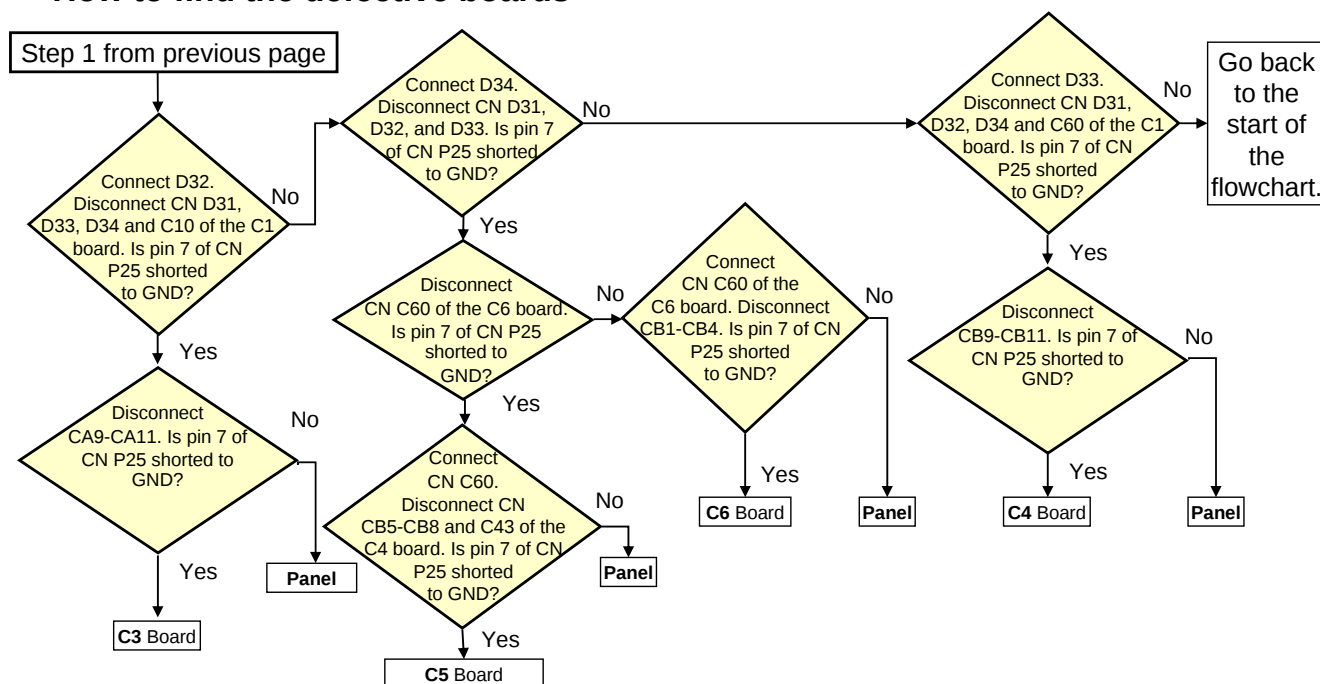
LED blinks 5 times (TH-58PX60U and TH 58PX600U)

<Trouble Mode and Defective Board>

Trouble Mode	Defective Board
5V SOS	D, P, C, SC, SS board or Panel (DDIC)*1

Warning: Disconnect AC Power prior to making any disconnection or connection.

<How to find the defective boards>



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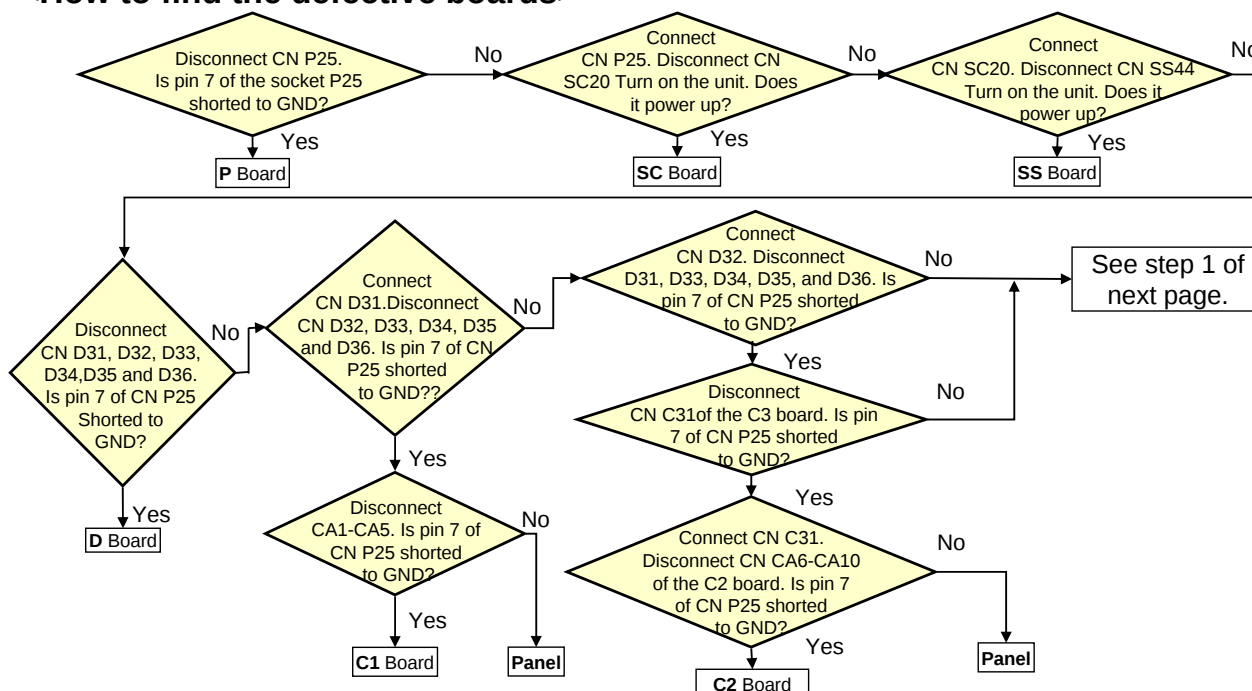
LED blinks 5 times (TH-65PX600U)

<Trouble Mode and Defective Board>

Trouble Mode	Defective Board
5V SOS	D, P, C, SC, SS board or Panel (DDIC)*1

Warning: Disconnect AC Power prior to making any disconnection or connection.

<How to find the defective boards>



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LED blinks 5 times Continued (TH-65PX600U)

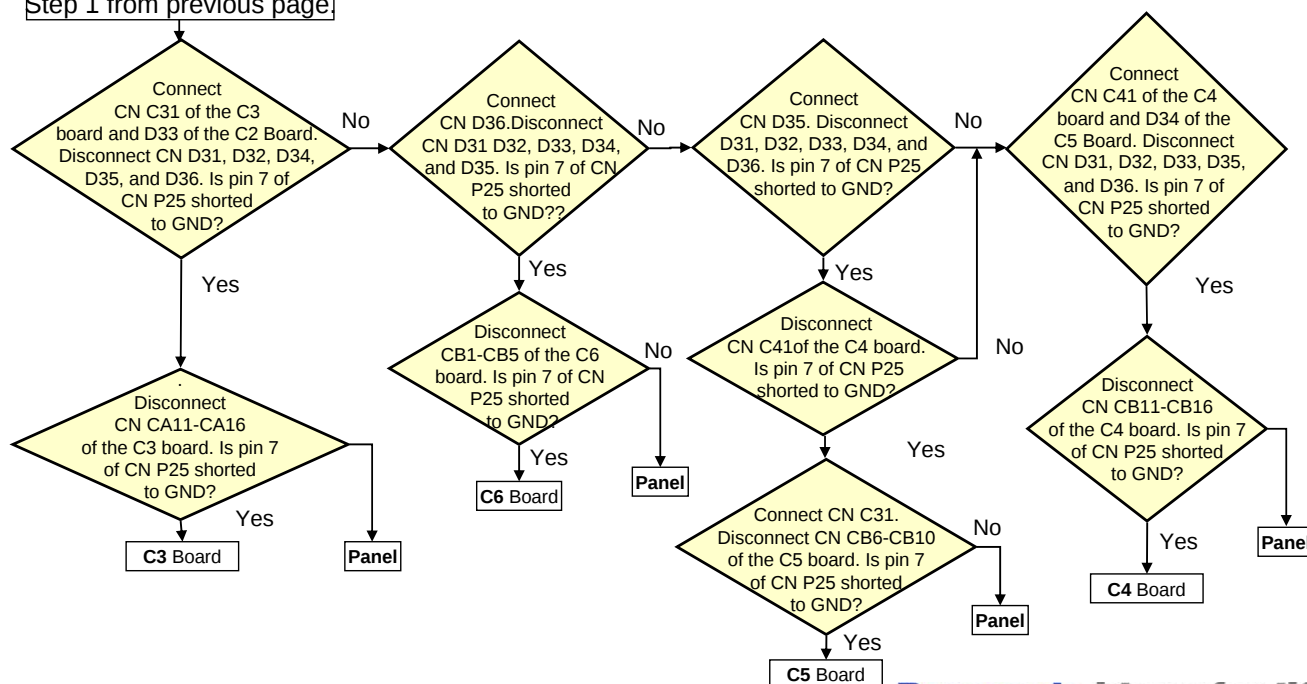
<Trouble Mode and Defective Board>

Trouble Mode	Defective Board
5V SOS	D, P, C, SC, SS board or Panel (DDIC)*1

Warning: Disconnect AC Power prior to making any disconnection or connection.

<How to find the defective boards>

Step 1 from previous page.



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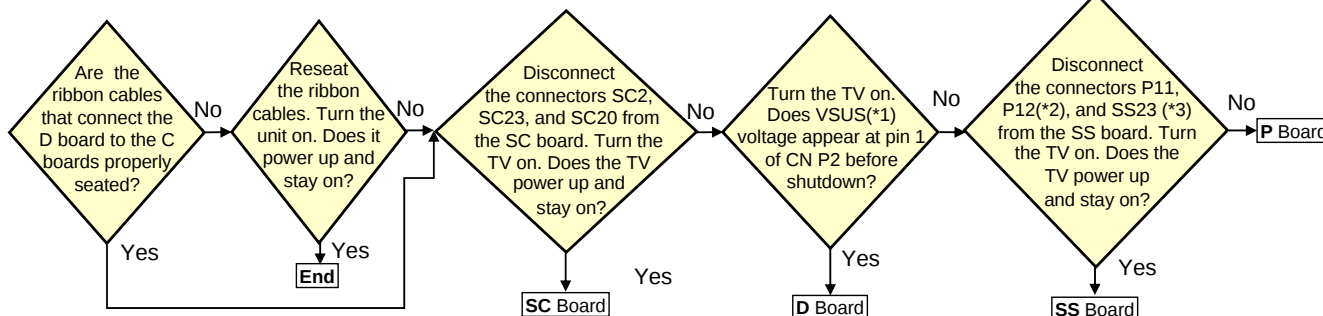
LED blinks 6 times

<Trouble Mode and Defective Board>

Trouble Mode	Defective Board (Possibility)
SC Energy Recovery SOS	SC, SS, D, P Board (SC > SS, D, P)

Warning: Disconnect AC Power prior to making any disconnection or connection.

<How to find the defective boards>



(*3) = The reference number of the sustain data connector is different in some of the models:

TH-37PX60U = SS23
 TH-42PD60U = SS23
 TH-42PX60U = SS23
 TH-42PX600U = SS23
 TH-50PX60U = SS43
 TH-50PX600U = SS44
 TH-58PX60U = SS44
 TH-58PX600U = SS44
 TH-65PX600U = SS44

(*1) VSUS about 180V (Accurate voltage is provided on the Panel Label)

CAUTION: Before connecting P2 or P11, discharge is necessary to prevent potential shock caused by VSUS.

(*2) Place a jumper across pin 8 and 10 of connector P12. The unit will not enter the standby mode without the jumper.

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LED blinks 7 times (all models except TH-58PX60/600U)

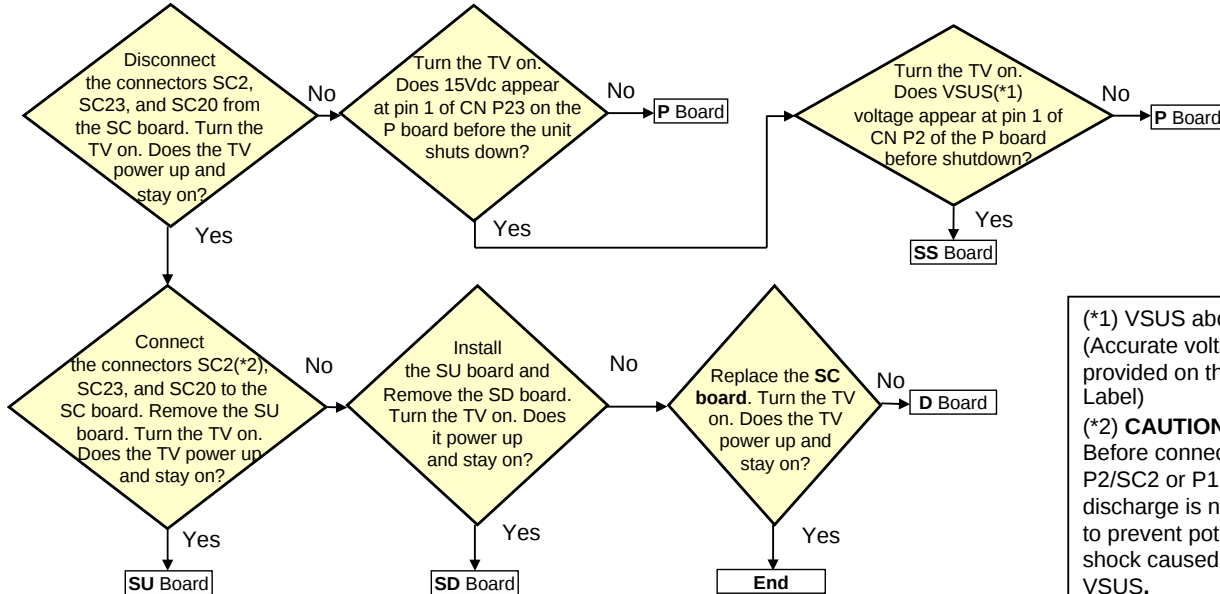
<Trouble Mode and Defective Board>

Trouble Mode	Defective Board (possibility)
SC Floating voltage SOS	SC, SU, SD, P board (SC,SU,SD>D,P)

Warning: Disconnect AC Power prior to making any disconnection or connection.

<How to find the defective boards>

Make sure the connectors P2/SC2, P23/SC23 SC20/D20 located are not loose and seated properly.



Note: CN = Connector

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LED blinks 7 times (TH-58PX60/600U)

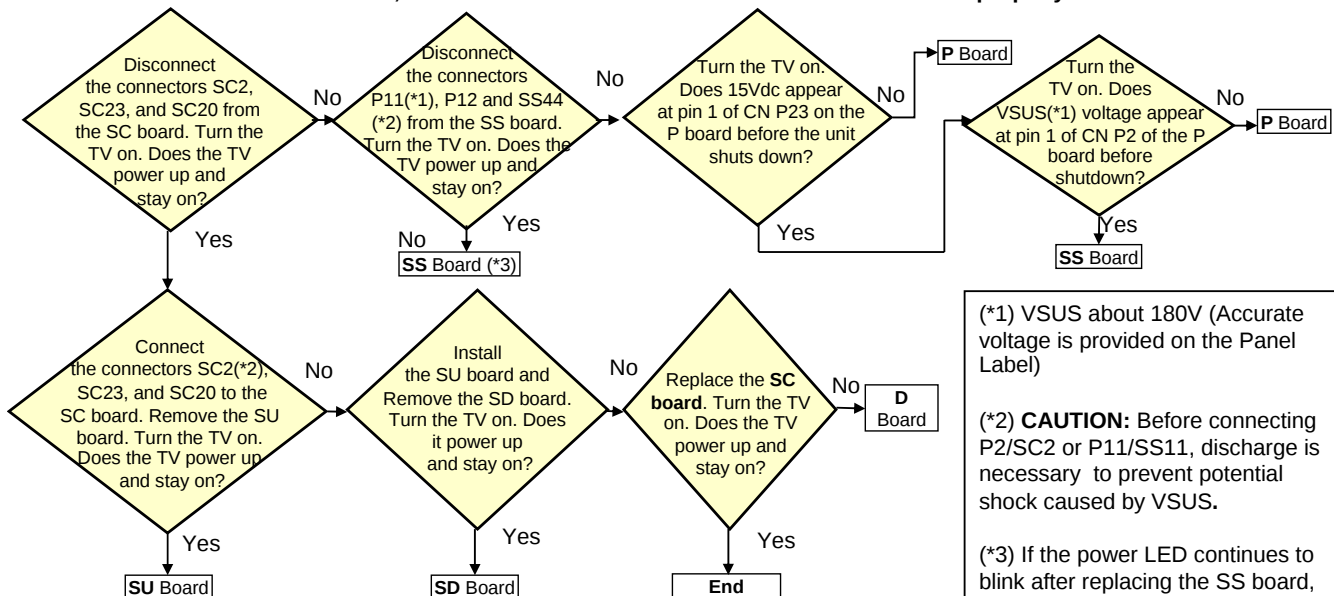
<Trouble Mode and Defective Board>

Trouble Mode	Defective Board (possibility)
SC Floating voltage SOS	SC, SU, SD, P board (SC,SU,SD>D,P)

Warning: Disconnect AC Power prior to making any disconnection or connection.

<How to find the defective boards>

Make sure the connectors P2/SC2, P23/SC23 SC20/D20 located are not loose and seated properly.



Note: CN = Connector

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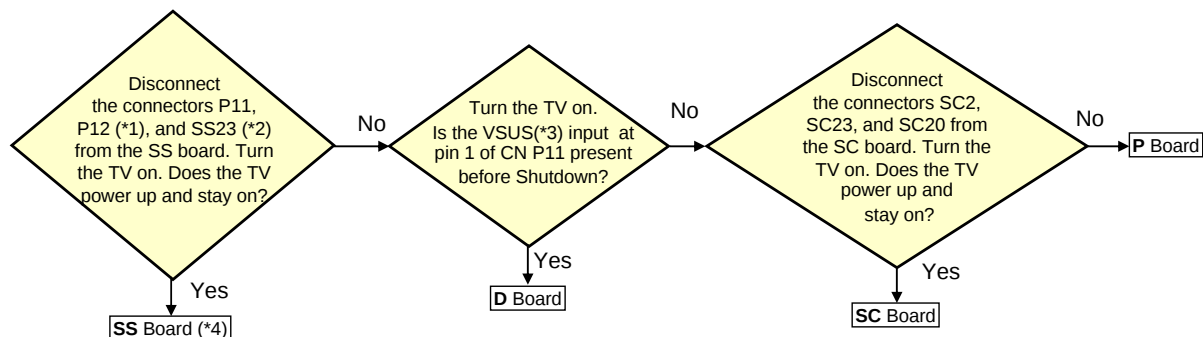
LED blinks 8 times

<Trouble Mode and Defective Board>

Trouble Mode	Defective Board (possibility)
SS Energy recovery SOS	SS, SC, D, P board (SS>SC,D,P)

Warning: Disconnect AC Power prior to making any disconnection or connection.

<How to find the defective boards>



(*2) = The reference number of the sustain data connector is different in some of the models:

TH-37PX60U = SS23
 TH-42PD60U = SS23
 TH-42PX60U = SS23
 TH-42PX600U = SS23
 TH-50PX60U = SS43
 TH-50PX600U = SS43
 TH-58PX60U = SS44
 TH-58PX600U = SS44
 TH-65PX600U = SS44

(*1) Place a jumper across pin 8 and 10 of connector P12. The unit will not enter the standby mode without the jumper.

(*3) VSUS about 180V (Accurate voltage is written on the Panel Label of the chassis)
CAUTION : To avoid potential shock from the VSUS voltage, discharge the connectors SC2 or SS11 before reconnecting them into their respective socket.

(*4) If the power LED continues to blink after replacing the SS board, change the D board.

LED blinks 9 times

<Trouble Mode and Defective Board>

Trouble Mode	Defective Board
Panel Status	D Board

Warning: Disconnect AC Power prior to making any disconnection or connection.

<How to find the defective boards>

In this case, the defective board is D board only.

LED blinks 10 times before pressing the power button

<Trouble Mode and Defective Board>

Trouble Mode	Defective Board
Tuner/ PA SOS	PA, P, H, DG, DT Board

Warning: Disconnect AC Power prior to making any disconnection or connection.

<How to find the defective board(s)>

Disconnect connector PA40 of the PA board and plug the TV into the AC line.

Does the power LED stop blinking?
Yes → **H Board**

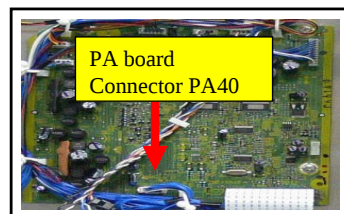
Remove the **DT** board and plug the TV into the AC line.

Does the power LED stop blinking?
Yes → **DT Board**

1. Disconnect connector P10 on the P board. (Make sure the TV is unplugged).
2. Because you only have 2 to 3 seconds to measure the F_STB_14V, place your meter's probe at **pin 1 of connector P10** on the P board before plugging the TV to the AC line.
3. Plug the TV to the AC line while still holding the probe at **pin 1**.

Note: When the **DT** board is removed, the unit will power up with all functions disabled due to a lack of data communication.

Does the 14V come up?
Yes → Since it may be difficult to determine whether the PA or the DG board is defective, it's OK to order both the **DG** and **PA** boards together.
No → **P Board**



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LED blinks 10 times after pressing the power button

<Trouble Mode and Defective Board>

Trouble Mode	Defective Board
Tuner/ PA SOS	PA, P, H, DG, SC, SS Board

(*) = The reference number of the sustain data connector is different in some of the models:

TH-37PX60U = SS23
TH-42PD60U = SS23
TH-42PX60U = SS23
TH-42PX600U = SS23
TH-50PX60U = SS43
TH-50PX600U = SS44
TH-58PX60U = SS44
TH-58PX600U = SS44
TH-65PX600U = SS44

<How to find the defective board(s)>

Disconnect connector **DG3** of the DG board and plug the TV into the AC line. Observe the SC and SS board LEDs.

Do the AC Relays click and remain on?
Are the SC and SS board LEDs on?
No → Disconnect CN SC2(*1), SC23 and SC20 of the SC board. Turn the unit on.
Yes → Connect connector **DG3** of the DG board. Disconnect connector **PA40** of the PA board and plug the TV into the AC line and turn the unit on.

Does the power LED stop blinking?
Yes → **H Board**

Since it may be difficult to determine whether the PA or the DG board is defective, it's OK to order both the **DG** and **PA** boards together.

Does the power LED blink 10 times?
Yes → Disconnect CN SS11(*1), SS12 (*2) and SS23 (*2) of the SS board. Turn the unit on.
No → **SC Board**

Does the power LED blink 10 times?
Yes → **P Board**
No → **SS Board**

Warning: Disconnect AC Power prior to making any disconnection or connection.
(*1) To avoid potential shock from the VSUS voltage, discharge the connectors SC2 or SS11 before reconnecting them into their respective socket.

(*2) Place a jumper across pin 8 and 10 of connector P12. The unit will not enter the standby mode without the jumper.

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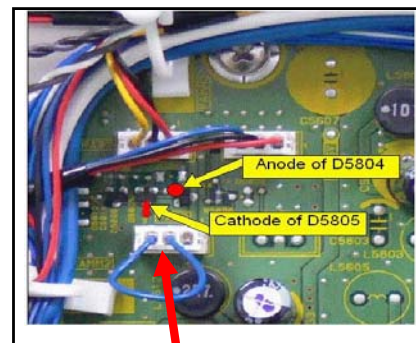
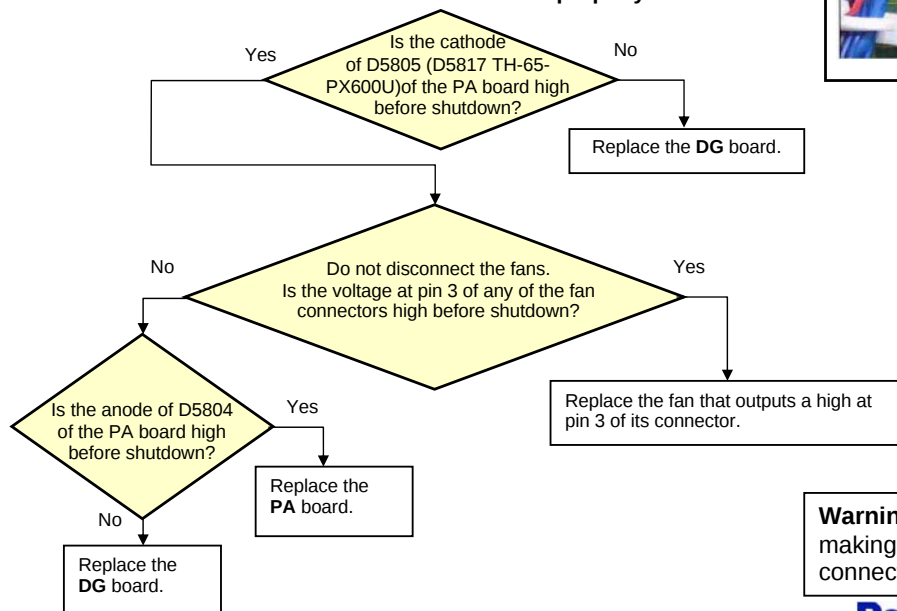
LED blinks 11 times

<Trouble Mode and Defective Board>

Trouble Mode	Defective Board (Possibility)
Fan SOS	Fan, PA Board

<How to find the defective boards>

Make sure that all the fan connectors, connector PA5 on the PA board and connector P5 on the P board are connected properly.



PA Board

Note: If this condition arises after replacing the PA board, confirm the presence of a jumper across the empty fan connector.

Warning: Disconnect AC Power prior to making any disconnection or connection.

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LED blinks 12 times (TH42PD60U, TH-37/42/50PX60U) (TH-65PX600U)

<Trouble Mode and Defective Board>

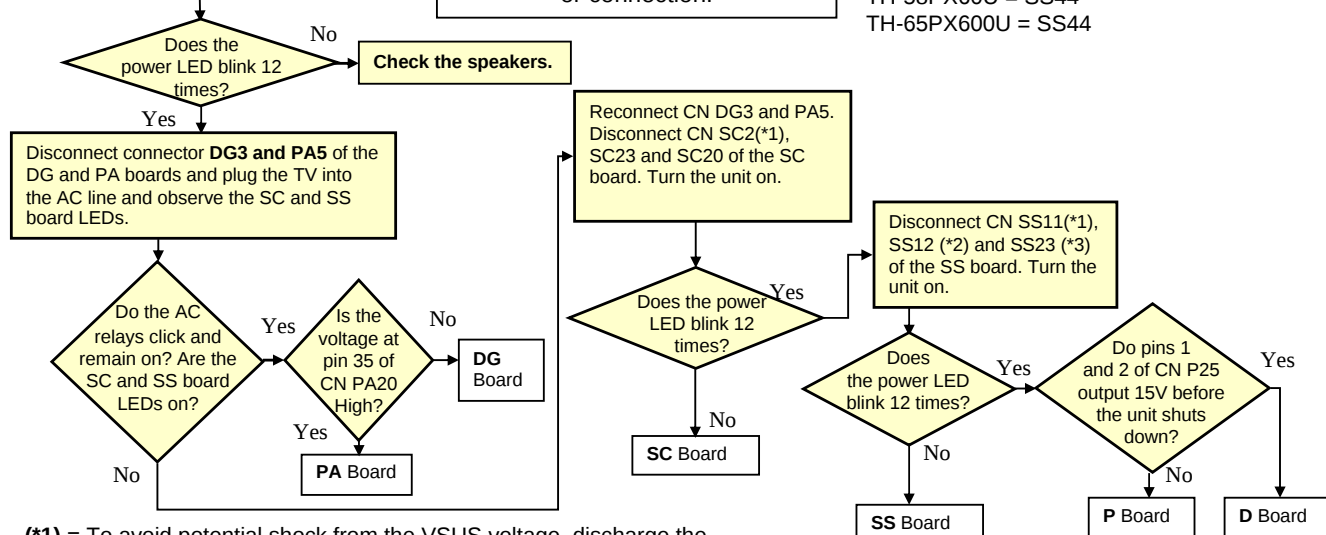
Trouble Mode	Defective Board (Possibility)
Sound SOS	Speakers, PA Board

<How to find the defective boards>

Make sure that the connector P5 on the P board and connector PA5 on the PB board are seated properly.

Disconnect the connector PA2 of the PA board and turn the unit on.

Warning: Disconnect AC Power prior to making any disconnection or connection.



(*2) = Remove the jumper at CN SS34 and install it across pin 8 and 10 of connector P12.

(*3) = The reference number of the sustain data connector is different in some of the models:

TH-37PX60U = SS23
 TH-42PD60U = SS23
 TH-42PX60U = SS23
 TH-50PX60U = SS43
 TH-58PX60U = SS44
 TH-65PX600U = SS44

(*1) = To avoid potential shock from the VSUS voltage, discharge the connectors SC2 or SS11 before reconnecting them into their respective socket.

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LED blinks 12 times (TH42/50/58PX600U)

<Trouble Mode and Defective Board>

Trouble Mode	Defective Board (Possibility)
Sound SOS	Fan, PA Board

Warning:
Disconnect AC Power prior to making any disconnection or connection.

(*1) = See (*1) of the previous page.

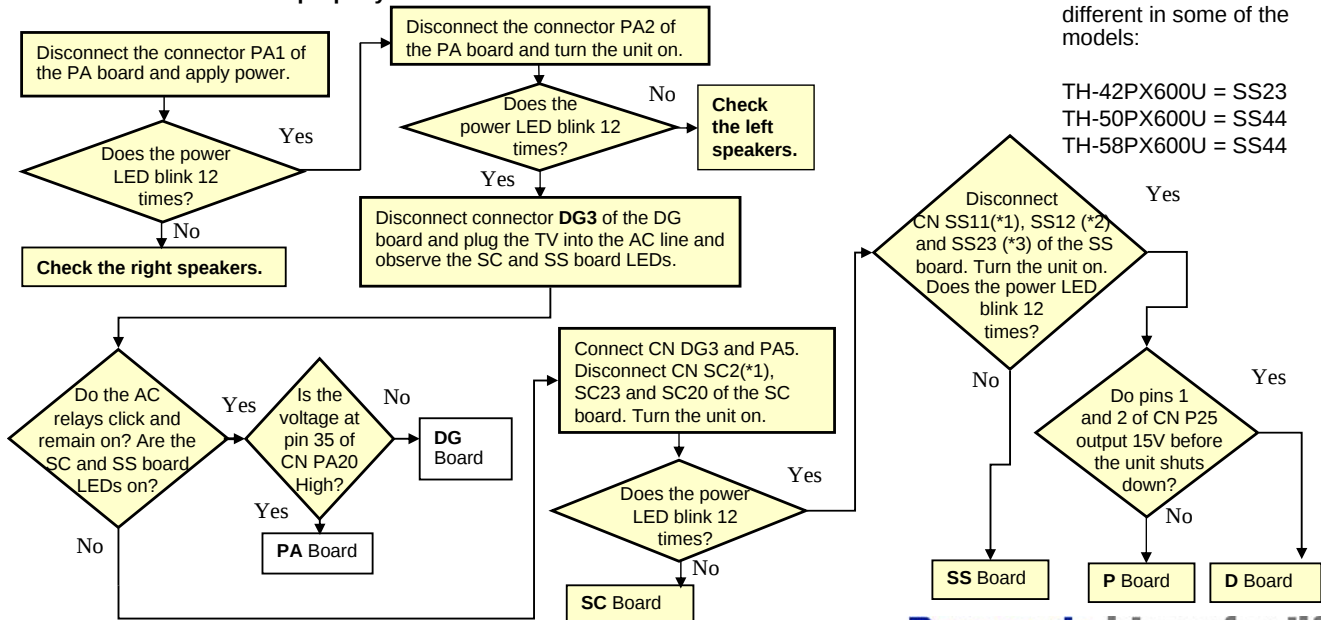
(*2) = Remove the jumper at CN SS34 and install it across pin 8 and 10 of connector P12.

(*3) = The reference number of the sustain data connector is different in some of the models:

TH-42PX600U = SS23
TH-50PX600U = SS44
TH-58PX600U = SS44

<How to find the defective boards>

Make sure that the connector P5 on the P board and connector PA5 on the PB board are seated properly.

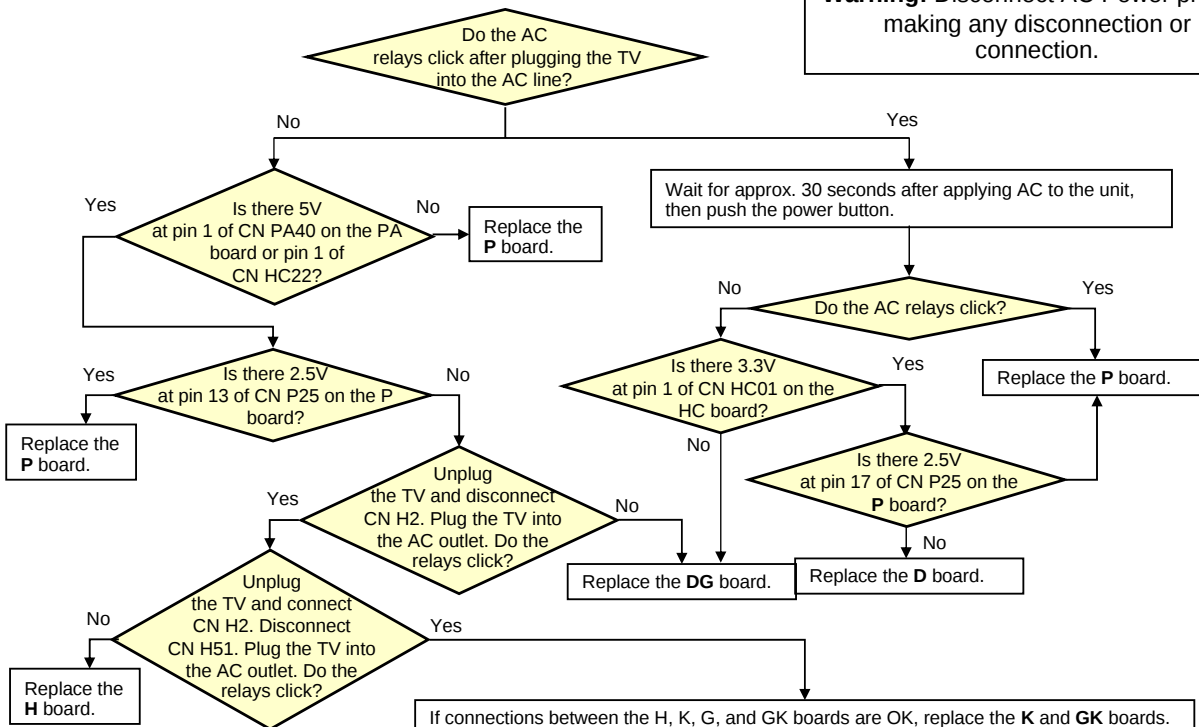


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No Power

Warning: Disconnect AC Power prior to making any disconnection or connection.



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No Picture from one or all inputs (OSD and Sound OK)

<Symptom>

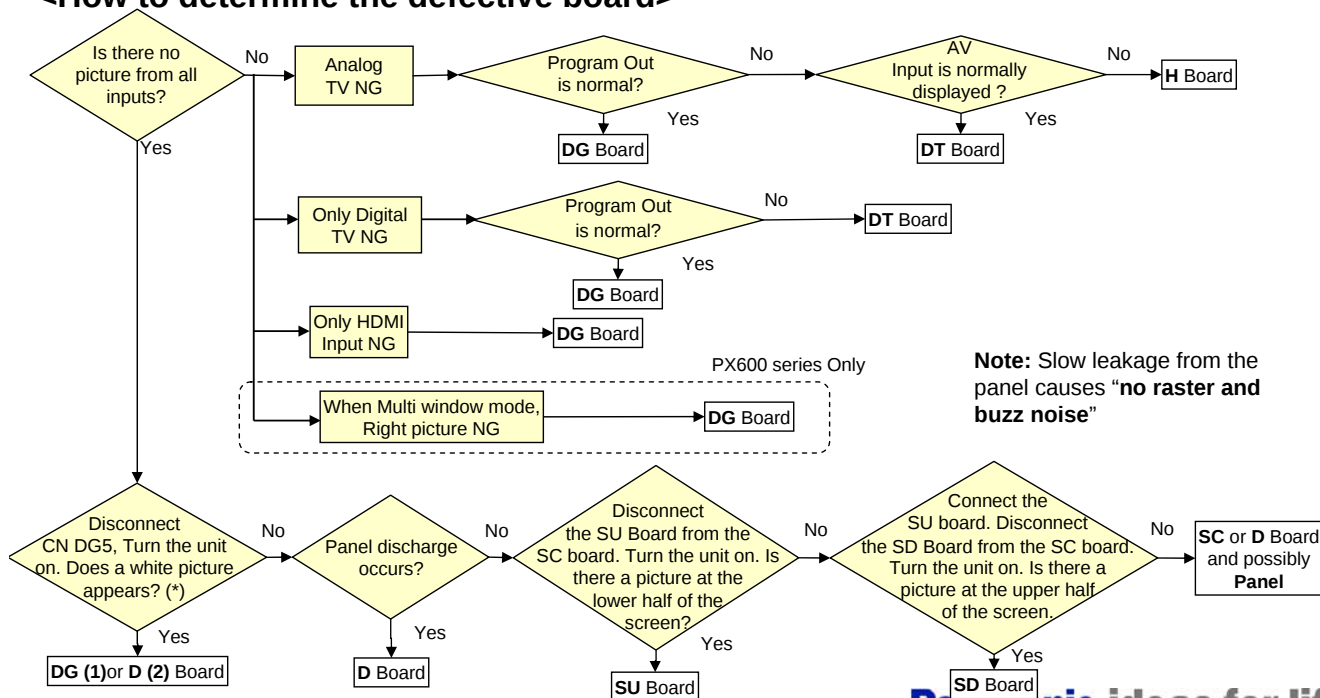
No Picture from one or all inputs (Sound OK)

<Models>

All models

<How to determine the defective board>

Warning: Disconnect AC Power prior to making any disconnection or connection.



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No Picture\No OSD

<Symptom>

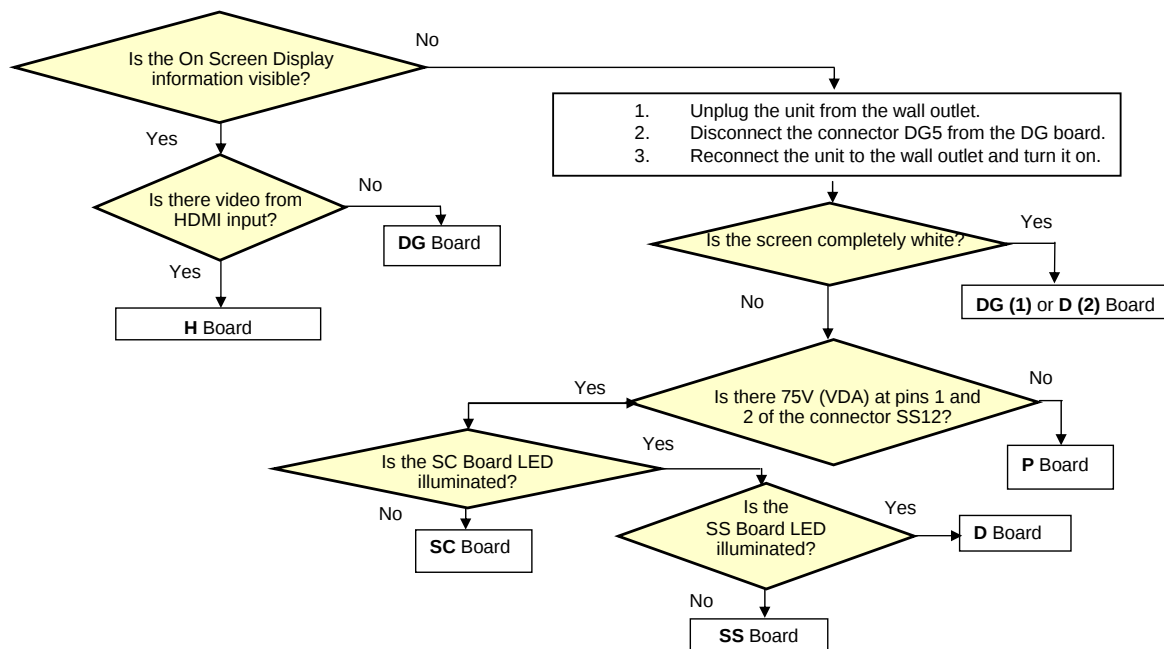
No Picture at all

<Models>

All Models)

<How to determine the defective board>

Warning: Disconnect AC Power prior to making any disconnection or connection.



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No Sound (TH-42PX600U)

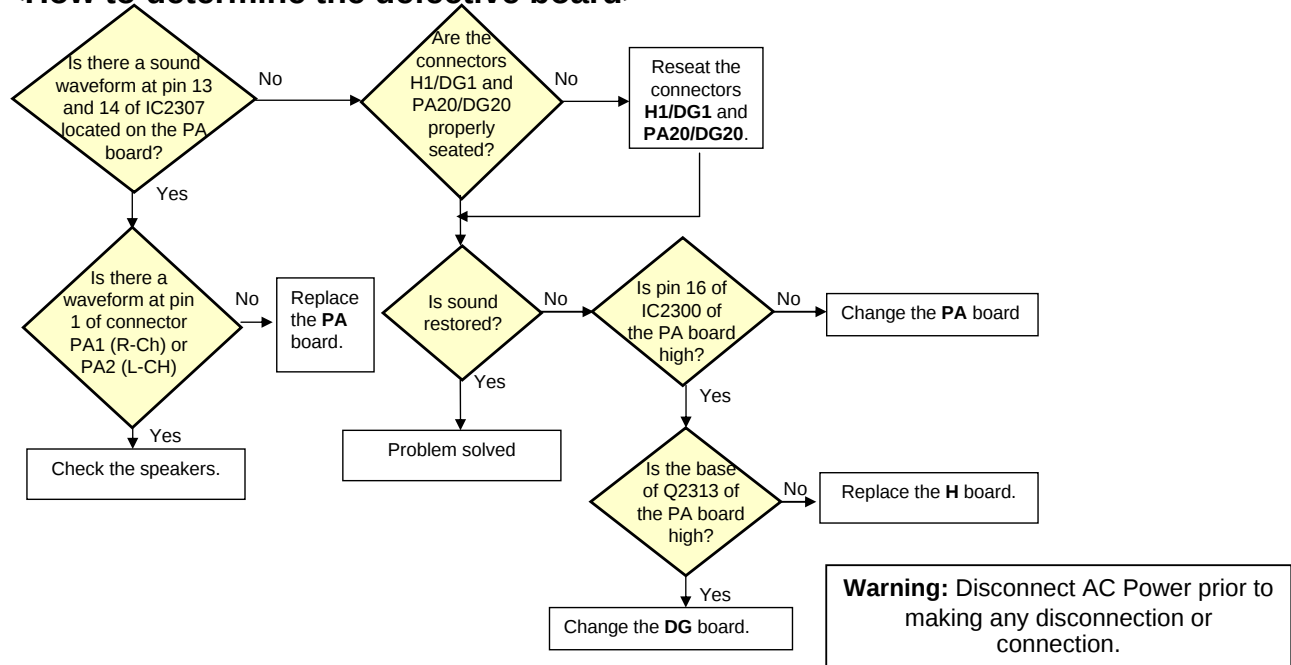
<Symptom>

No Audio

<Models>

50inch (HD Panel), 42/37inch (HD/SD Panel)

<How to determine the defective board>



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Troubleshooting for Picture Problems

Diagnostic Method for Troubleshooting PDP Television

<Introduction>

1. There are two kinds of picture problem

- 1) Abnormal picture
- 2) No picture

2. Basic concept of determining the defective board

- 1) Which area is the symptom displayed on the screen?
 - A. Part of the screen
 - B. All over the screen

3. Adjustment after PCB exchange

- 1) After exchanging the following boards, voltage adjustment is required.
P board, SC board, SS board => Please refer to "Service Manual".

Diagnosis by Test Pattern When OSD is Available

<Purpose>

Picture problem such as "Picture Noise and or Vertical Line" displayed all over the screen is mainly caused by a defective D or DG board. The "internal Test Pattern Generator" can help determine whether to replace the D or DG board. The test patterns are created by the D board. Follow the steps below to confirm the operation of the D or DG boards.

<Model>

All Models

<Symptom>

Picture Noise, Full Vertical Line

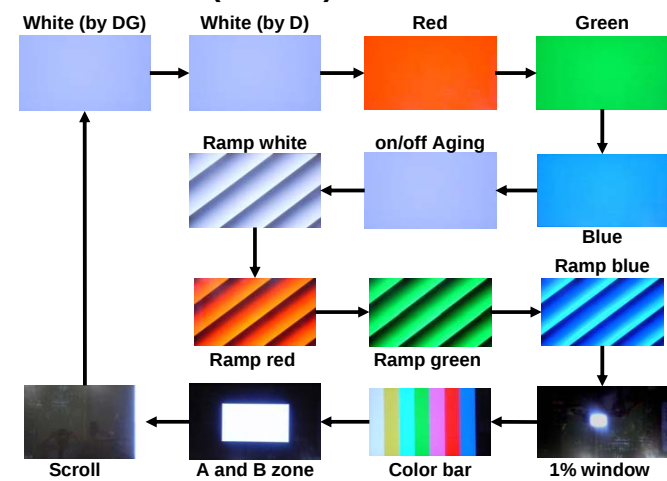
<Diagnosis>

Pattern	Defective Board
Abnormal	D Board
Normal	DG Board (or D board)

<How to enter the Test Pattern>

1. While pressing "VOLUME-" button of the TV set, press "RECALL" button of the remote control three times within 2 seconds.
2. Push button "1" of the Remote Control several times to select the "OPTION" setting.
3. Press the "OK" button of the Remote control for three seconds or more to display the test pattern.
4. To display a specific pattern, press the OK button.

<Test Pattern (Normal)>



<Test Pattern (Abnormal)>

Example Picture



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Diagnosis by Removing the D5 Connector

<Purpose>

Symptom such as "No picture, No OSD, Sound OK" is mainly caused by a defective DG or D board. The internal pattern generator cannot be accessed due to the loss of OSD. This method makes it possible to determine whether the DG board or the D (SC,SS) is defective.

<Model>

2006 Models ONLY

<Symptom>

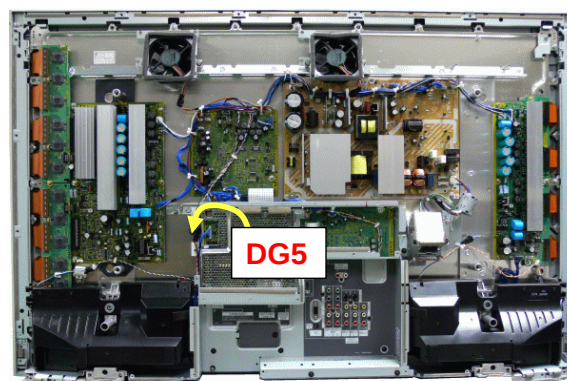
No picture (Sound OK)

<Diagnosis>

Power ON after removing D5 Connector

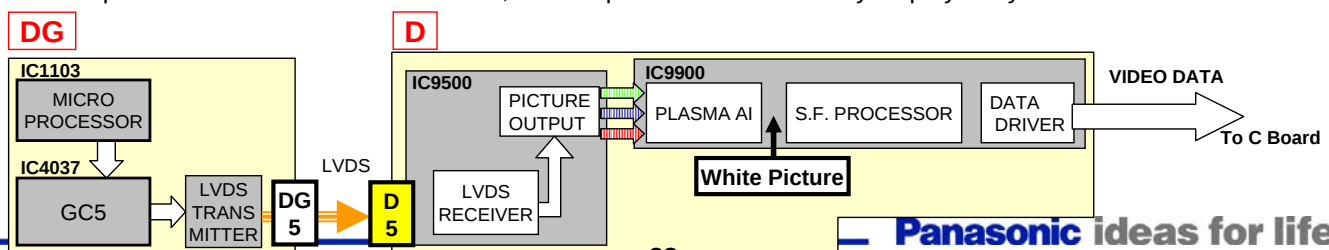
Pattern	Defective Board
White Picture	DG Board (D board)
No Picture	D board (SC or SS)

<Position of D5 Connector>



<Block Diagram and Explanation>

1. This white pattern is generated by IC9900 on D board.
2. When the unit is turned on after disconnecting connector D5, a white picture is provided to the panel drive circuit. If the panel drive section of the unit is ok, a white picture is automatically displayed by the PDP.

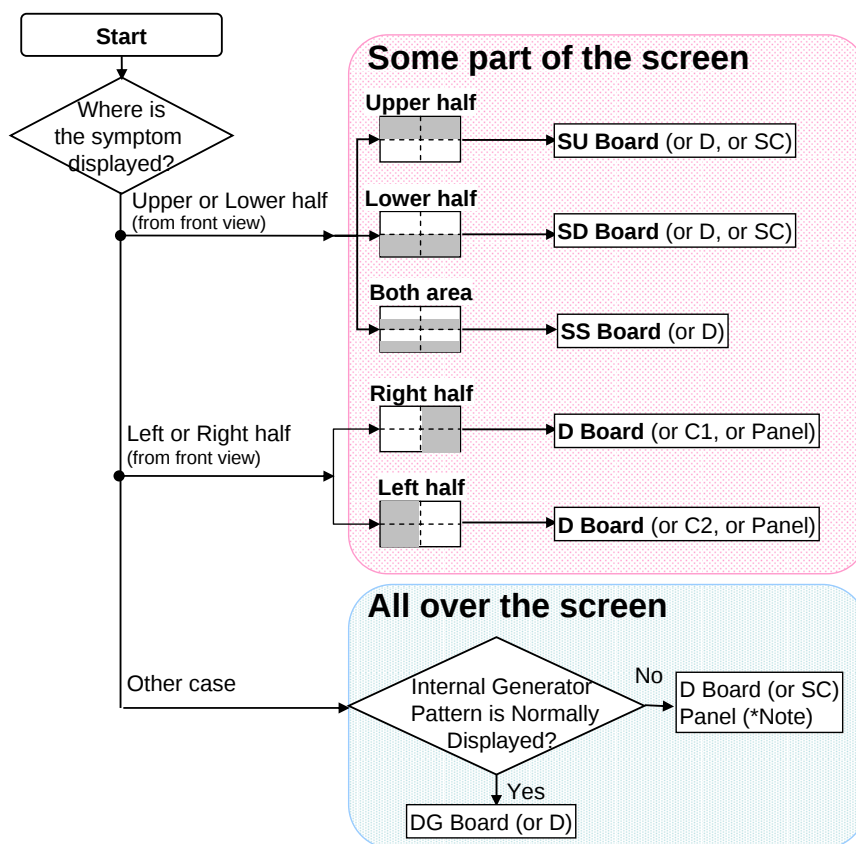


Panasonic ideas for life

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Troubleshooting for Picture Trouble

<How to determine the defective board>



*Note :Panel gas leakage



Because of a very small crack in the panel, gas leakage will start. In this picture, gas leakage started at the left top corner. Finally, gas leakage will lead to the symptom "No picture with buzz noise".

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Panasonic ideas for life

Diagnosis for Picture Problem (All Over the Screen)

<Symptom>

Abnormal Color, Vertical Line, Sync Error, Noise Picture

<Model>

All Models

<Sample Picture>

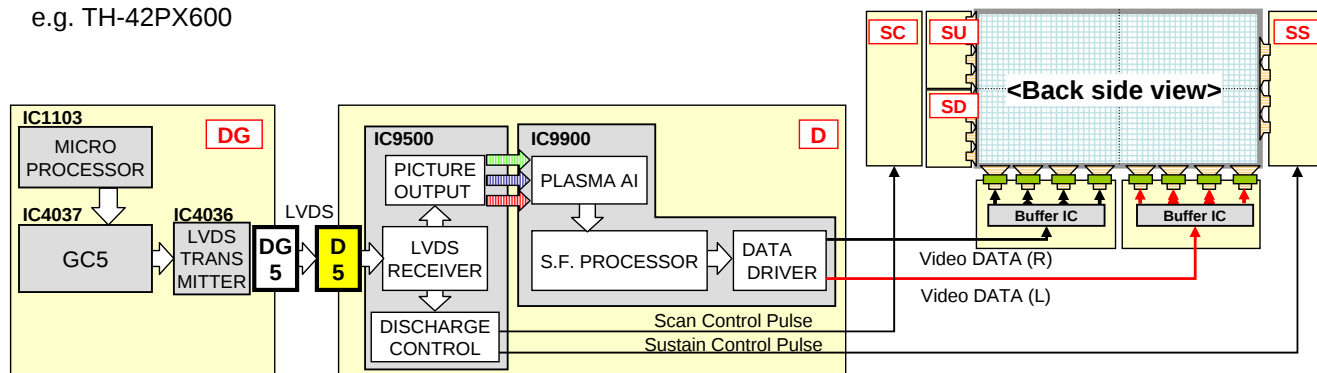


<Possible Cause>

DG Board, D Board, SC Board, SU Board, SD Board

<Block Diagram>

e.g. TH-42PX600



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Panasonic ideas for life

Diagnosis for Picture Problem (All Over the Screen)

<Diagnosis (1)>

Enter the "Internal Test Pattern Generator"

or

Is the screen "White", after disconnecting the connector "D5"? (*1)

<Result>

Test Pattern **OK** or White Picture **displayed**

<Cause>

DG (and possibly D) Board defect

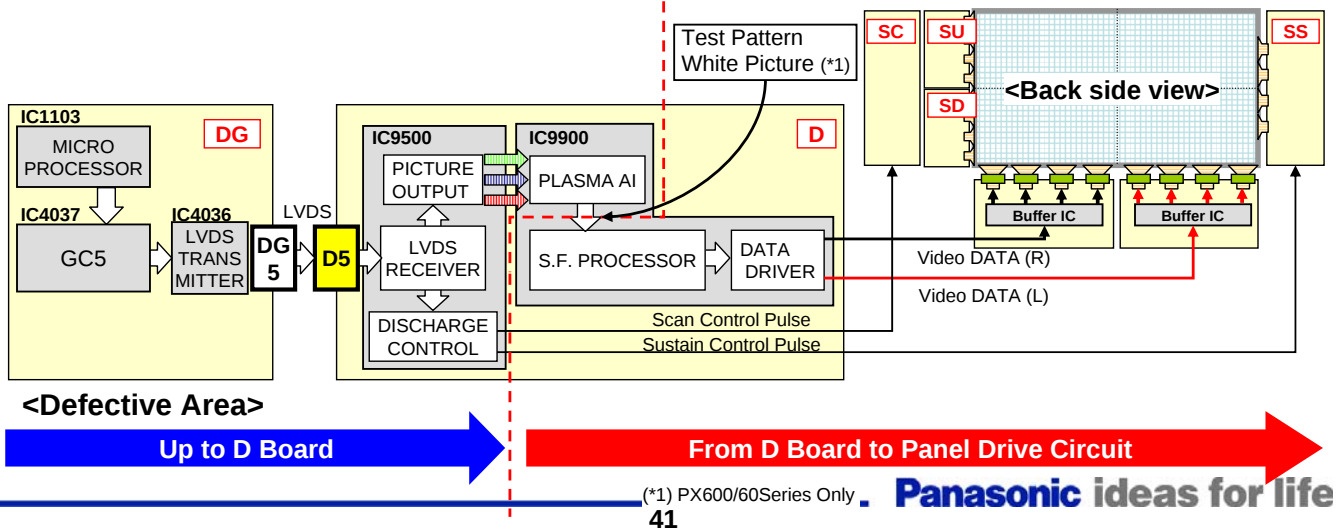
<Result>

Test Pattern **NG** or White Picture **not displayed**

<Cause>

D, SC,SU,SD Board defect

Refer to "Diagnosis (2)"
on next page



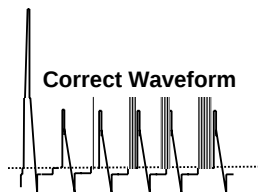
Diagnosis for Picture Problem (All Over the Screen)

<Diagnosis (2)>

Confirm the waveform at "TPSC1" of the SC board

<Result>

Waveform **OK**

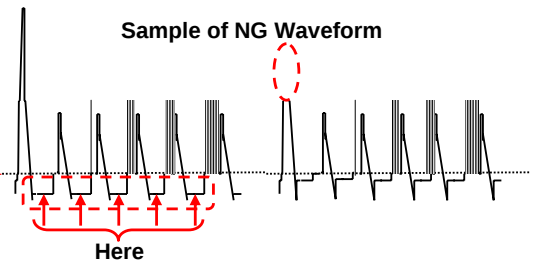


<Cause>

D Board defect

<Result>

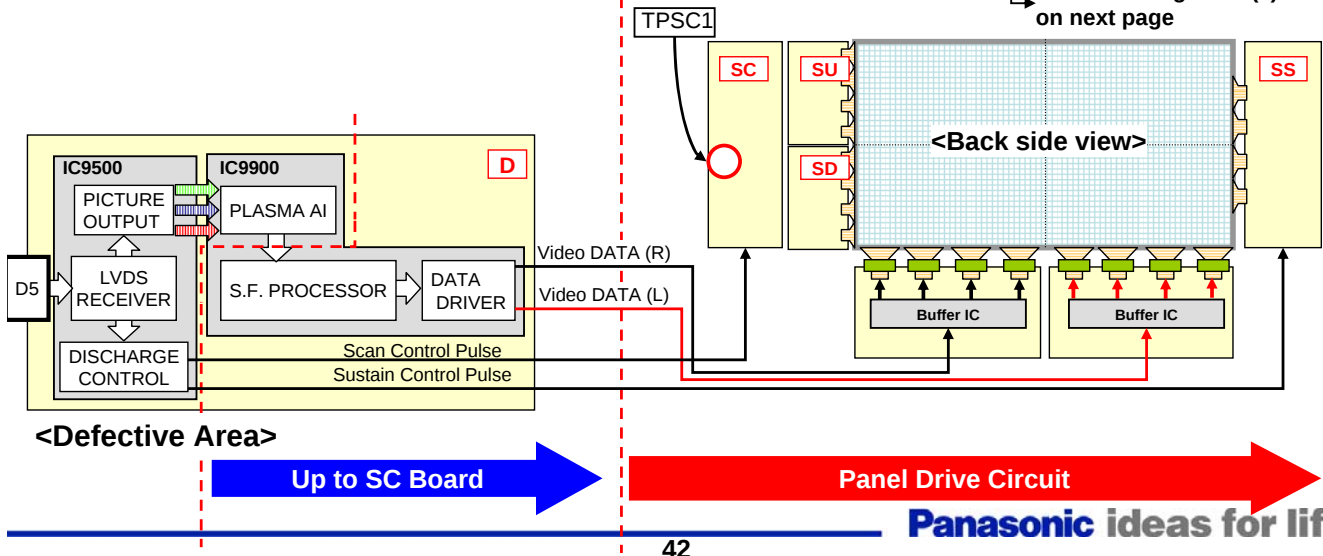
Waveform **NG**



<Cause>

SC,SU,SD Board defect

Refer to "Diagnosis (3)"
on next page



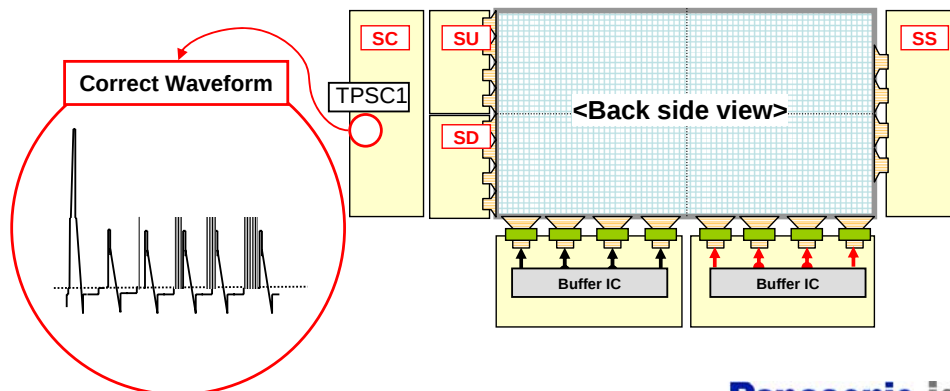
Diagnosis for Picture Problem (All Over the Screen)

<Diagnosis (3)>

Confirm the waveform at "TPSC1" after removing the SU or SD Board from the SC Board

<Result>

Situation	Condition	Condition 2	Cause
Disconnect SU Board (Connect SD)	Waveform OK?	Bottom half of Picture OK?	SU Board
Disconnect SD Board (Connect SU)	Waveform OK?	Upper half of Picture OK?	SD Board
Disconnect the SU and SD Boards	Waveform OK?	Screen should be black	SC Board

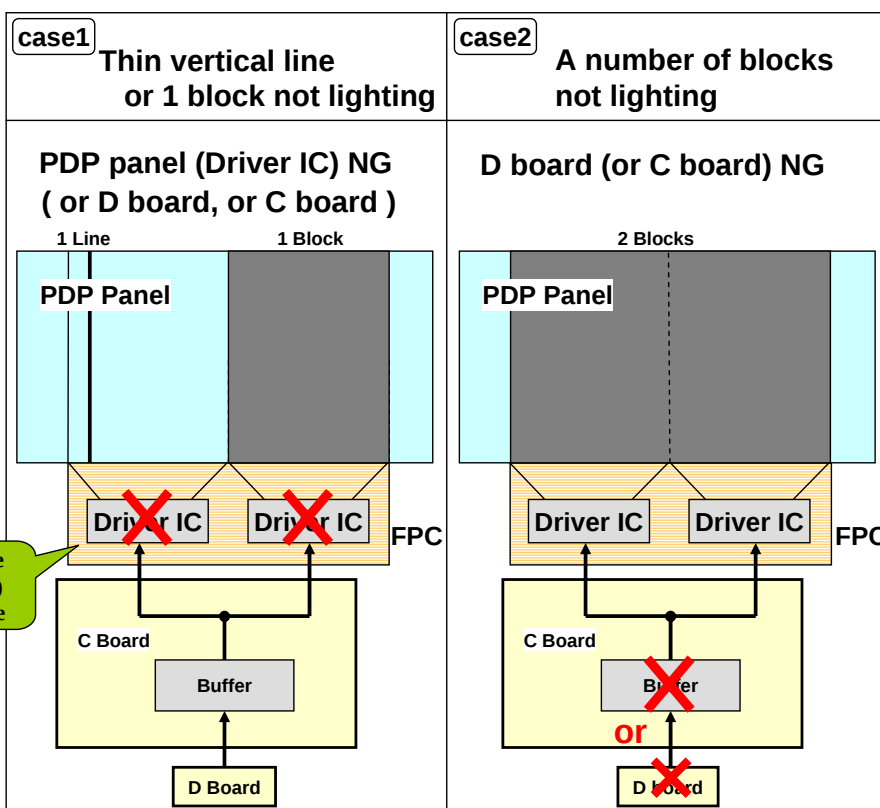
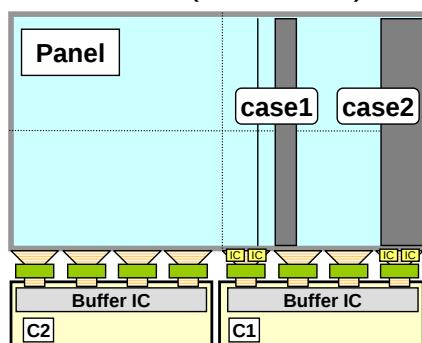


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Panasonic ideas for life

Diagnosis of Vertical Line Problem

NG Area (Front view)



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Panasonic ideas for life

Picture Trouble at Right or Left half (42/37 Inch)

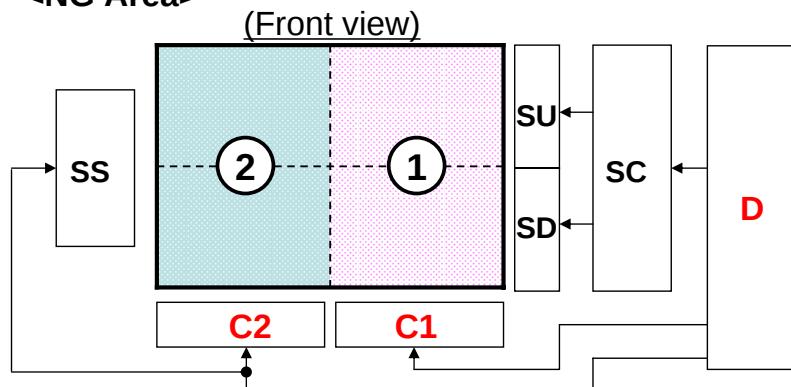
<Symptom>

No Picture, Picture noise, Full Vertical line, etc.

<Models>

42/37inch (HD/SD Panel)

<NG Area>



<Defective board>

- ① Trouble at Right half : **D or C1 board (Panel) defect**
- ② Trouble at Left half : **D or C2 board (Panel) defect**

<Actual Symptom>

Symptom : **Vertical line**
Result : **Panel**



Panasonic ideas for life

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Picture Trouble in 50 Inch Models

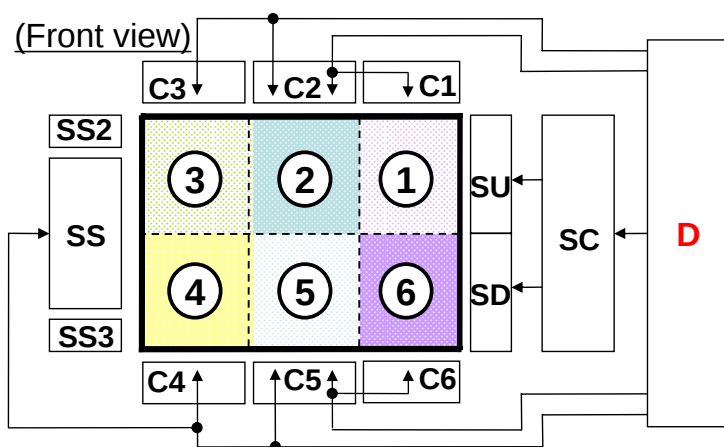
<Symptom>

No Picture, Picture noise, Half Vertical line, etc.

<Models>

50inch (HD Panel)

<NG Area>



<Defective board>

- ① Trouble at Upper right : **C1 board or Panel defect**
- ② Trouble at Upper middle : **C2 board or Panel defect**
- ③ Trouble at Upper left : **C3 board or Panel defect**
- ④ Trouble at Lower left : **C4 board or Panel defect**
- ⑤ Trouble at Lower middle : **C5 board or Panel defect**
- ⑥ Trouble at Lower right : **C6 board or Panel defect**

Panasonic ideas for life

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Picture Trouble all Over the Screen

<Symptom>

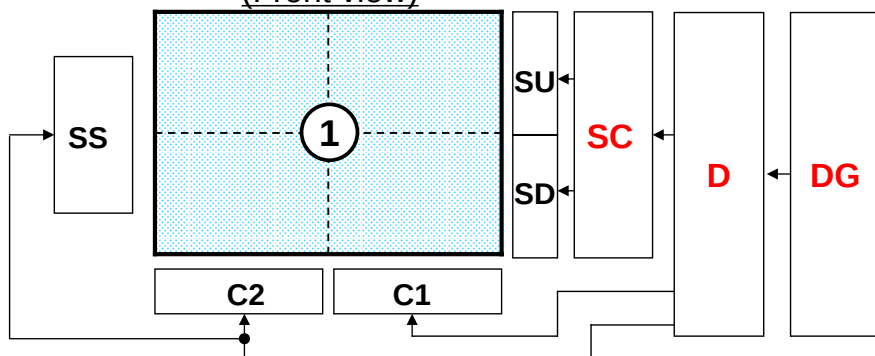
Picture noise, Full Vertical line, etc.

<Models>

42/37inch (HD/SD Panel)

<NG Area (e.g. 42/37inch Panel)>

(Front view)



<Defective board>

① Trouble at All area : **D or DG or SC board**
(SU,SD) defect

<Actual Symptom>

Symptom : Vertical line (All over screen)

Result : D board



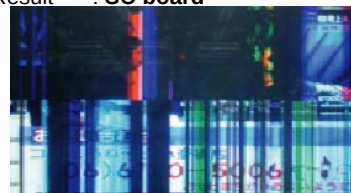
Symptom : White balance NG

Result : D board



Symptom : Abnormal Picture

Result : SC board



Panasonic ideas for life

Examples of Symptoms and Remedies

Picture Problem (All over the screen)

<Symptom> Noise Picture

<Photo of Symptom>

Model : 42/37inch (HD panel)
Result : D Board



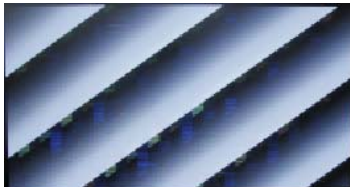
Model : 42/37inch (HD panel)
Result : DG Board



Model : 42/37inch (HD panel)
Result : SC Board



Model : 42/37inch (HD panel)
Result : D Board



Model : 42/37inch (HD panel)
Result : SC Board



Model : 42/37inch (HD panel)
Result : SC Board



Model : 42/37inch (HD panel)
Result : D Board



Model : 42/37inch (HD panel)
Result : SC Board



Model : 42/37inch (HD panel)
Result : SC Board



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Panasonic ideas for life

Picture Problem (All over the screen)

<Symptom> Vertical Line

<Photo of Symptom>

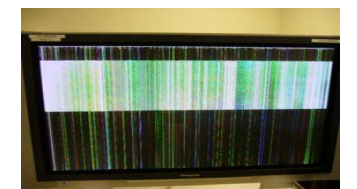
Model : 42/37inch (HD panel)
Result : D Board



Model : 42/37inch (HD panel)
Result : D Board



Model : 42/37inch (HD panel)
Result : SC Board



Model : 42/37inch (HD panel)
Result : D Board



Model : 42/37inch (HD panel)
Result : DG Board



Model : 42/37inch (HD panel)
Result : SD Board



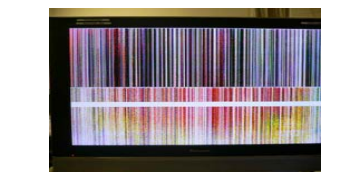
Model : 42/37inch (HD panel)
Result : D Board



Model : 42/37inch (HD panel)
Result : DG Board



Model : 42/37inch (HD panel)
Result : SD Board



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Panasonic ideas for life

Picture Problem (All over the screen)

<Symptom> Abnormal Color, White Balance NG

<Photo of Symptom>

Model : 42/37inch (HD panel)
Result : D Board



Model : 42/37inch (HD panel)
Result : D Board



Model : 42/37inch (HD panel)
Result : DG Board



Model : 42/37inch (HD panel)
Result : D Board



Model : 42/37inch (HD panel)
Result : DG Board



Model : 42/37inch (HD panel)
Result : DG Board



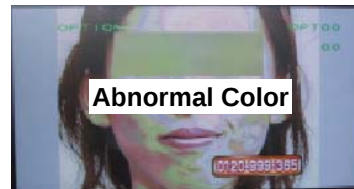
Model : 42/37inch (HD panel)
Result : D Board



Model : 42/37inch (HD panel)
Result : D Board



Model : 42/37inch (HD panel)
Result : D Board



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Panasonic ideas for life

Picture Problem (All over the screen)

<Symptom> Sync Error

<Photo of Symptom>

Model : 42/37inch (HD panel)
Result : D Board



Model : 42/37inch (HD panel)
Result : D Board



Model : 42/37inch (HD panel)
Result : D Board



Model : 42/37inch (HD panel)
Result : D Board



Model : 42/37inch (HD panel)
Result : D Board



Model : 42/37inch (HD panel)
Result : D Board



Model : 42/37inch (HD panel)
Result : D Board



Model : 42/37inch (HD panel)
Result : D Board



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Panasonic ideas for life

Picture Problem (Right half or Left half)

<Symptom> Vertical Line

<Photo of Symptom>

Model : 50inch (HD panel)
Result : D Board



Model : 42/37inch (HD panel)
Result : D Board



Model : 42/37inch (HD panel)
Result : D Board



Model : 42/37inch (HD panel)
Result : D Board



Model : 42/37inch (HD panel)
Result : D Board



Model : 42/37inch (HD panel)
Result : D Board



Model : 42/37inch (HD panel)
Result : D Board



Model : 42/37inch (HD panel)
Result : D Board



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Panasonic ideas for life

Picture Problem (Upper or Bottom)

<Symptom> Vertical Line

<Photo of Symptom>

Model : 42/37inch (HD panel)
Result : D Board



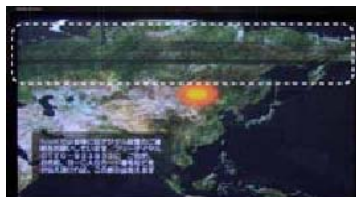
Model : 42/37inch (HD panel)
Result : D Board



Model : 42/37inch (HD panel)
Result : D Board



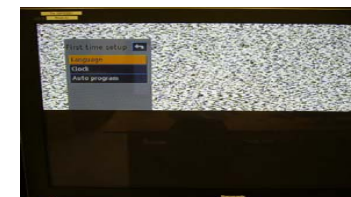
Model : 42/37inch (HD panel)
Result : SU Board



Model : 42/37inch (HD panel)
Result : D Board



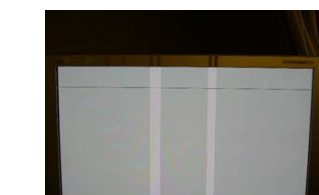
Model : 42/37inch (HD panel)
Result : SC Board



Model : 42/37inch (HD panel)
Result : SS Board



Model : 42/37inch (HD panel)
Result : SU Board



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Panasonic ideas for life

Reset and Self-check Procedure

CHASSIS: GP9D and GPH9D

All models

How to access the self-check screen to reset the unit.

Select a television channel, and while pressing the [VOLUME (-)] button on the main unit, press the [OK] button on the remote control for more than 3 seconds.

How to Exit the self-check screen

Disconnect the AC cord from the wall outlet.

All parameters of the unit are now set to factory default.

Self-check Screen

SELF	CHECK	TZ1-00600 -00500			
UV	OK	DT1	OK	DT2	OK
SND	OK	AVSWV	OK	AVSWA	OK
ADV	OK	GC5	OK	HDMI	OK
MEM	OK	RTC	OK	PANEL	OK
SOS : 1	345	789	BC		
ROMCORR CHECKSUM : 25					
DT ERROR INCH37P42					
Copyright 2005 Matsusita					
Electric Industrial Co.,Ltd					

Panasonic ideas for life

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TH-42PD60U Driver Setup Adjustment

Item / Preparation

1. Input a white signal to plasma video input.
2. Set the picture controls as follows.
Picture menu: Vivid
Picture: +30
Aspect: Full

Caution

1. First perform Vsus adjustment.
2. The Confirmation of Vscn voltage should be performed after the confirmation of Vad adjustment.

When Vad=-90V, Voltage of Vscn is 30V $\pm$ 3V.

Driver Setup Table

Name	Test Point	Voltage	Volume
Vsus	TPVSUS (SS)	Vsus $\pm$ 2V	R628 (P)
Ve	TPVE (SS)	Ve $\pm$ 2V	VR6000 (SS)
Vset	TPVSET (SC)	232V $\pm$ 7V	Fixed
Vad	TPVAD (SC)	-90V $\pm$ 1V	VR6600 (SC)
Vscn	TPVSCN (SC)	Vad+125V $\pm$ 4V	Fixed
Vda	TPVDA (SS)	70V $\pm$ 1V	Fixed
Vdat	P12-1, 5 (P)	70.2V $\pm$ 0.1V	R665 (P)
PFC	C446 (+)(-)	396V $\pm$ 0.5V	R443 (P)
Vlow	C555 (+)(-)	73.0V $\pm$ 0.1V	R661 (P)
Csus	TPVSUS(SS)	165V $\pm$ 0.5V	R671 (P)

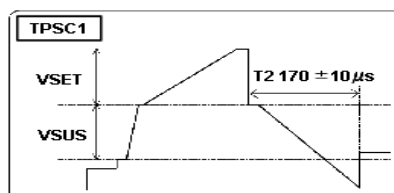
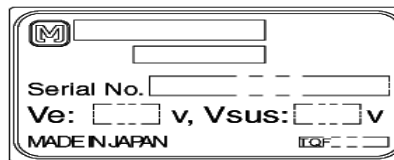
*See the Panel label.

Initialization Pulse Adjust

1. Input the White signal to plasma video input.
2. Set the picture controls as follows.
Picture menu : Vivid
Picture : +25
Aspect : Full
3. Connect Oscilloscope to TPSC1 (T2) and adjust VR6602 for 195+10 μ Sec.

	Test point	Volume	Level
T2	TPSC1 (SC)	VR6602 (SC)	170 $\pm$ 10 μ Sec

Panel Label



Panasonic ideas for life

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TH-37PX60U, TH-42PX60U and TH-42PX600U Driver Setup

Item / Preparation

1. Input a white signal to plasma video input.
2. Set the picture controls as follows.
Picture menu: Vivid
Picture: +30
Aspect: Full

Caution

1. First perform Vsus adjustment.
2. The Confirmation of Vscn voltage should be performed after the confirmation of Vad adjustment.

When Vad=-90V, Voltage of Vscn is 30V $\pm$ 3V.

Driver Setup Table

Name	Test Point	Voltage	Volume
Vsus	TPVSUS (SS)	Vsus $\pm$ 2V	R628 (P)
Ve	TPVE (SS)	Ve $\pm$ 2V	VR6000 (SS)
Vset	TPVSET (SC)	260V $\pm$ 7V	Fixed
Vad	TPVAD (SC)	-105V $\pm$ 1V	VR6600 (SC)
Vscn	TPVSCN (SC)	Vad+140V $\pm$ 4V	Fixed
Vda	TPVDA (SS)	75V $\pm$ 1V	Fixed
Vdat	P12-1, 5 (P)	75.5V $\pm$ 0.1V	R665 (P)
PFC	C446 (+)(-)	396V $\pm$ 0.5V	R443 (P)
Vlow	C555 (+)(-)	78.5V $\pm$ 0.1V	R661 (P)
Csus	TPVSUS (SS)	180V $\pm$ 0.5V	R671 (P)

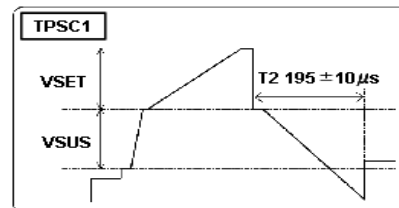
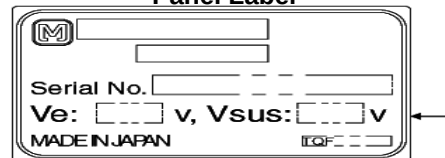
*See the Panel label.

Initialization Pulse Adjust

1. Input the White signal to plasma video input.
2. Set the picture controls as follows.
Picture menu : Vivid
Picture : +25
Aspect : Full
3. Connect Oscilloscope to TPSC1 (T2) and adjust VR6602 for 195+10 μ Sec.

	Test point	Volume	Level
T2	TPSC1 (SC)	VR6602 (SC)	195 $\pm$ 10 μ Sec

Panel Label



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Panasonic ideas for life

TH-50PX60U and TH-50PX600U Driver Setup Adjustment

Item / Preparation

1. Input a white signal to plasma video input.
2. Set the picture controls as follows.
Picture menu: Vivid
Picture: +30
Aspect: Full

Caution

1. First perform Vsus adjustment.
2. The Confirmation of Vscn voltage should be performed after the confirmation of Vad adjustment.

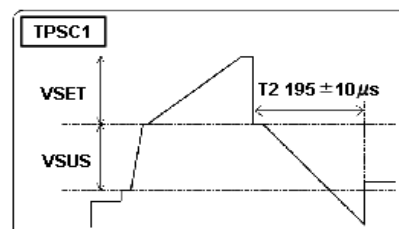
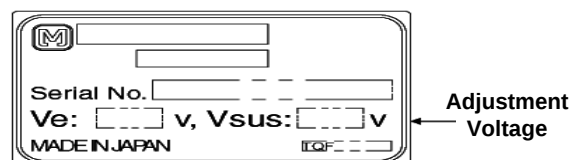
When Vad=-90V, Voltage of Vscn is 30V $\pm$ 3V.

Driver Setup Table

Name	Test Point	Voltage	Volume
Vsus	TPVSUS (SS)	Vsus $\pm$ 2V	VR251 (P)
Ve	TPVE (SS)	Ve $\pm$ 2V	VR6000 (SS)
Vset	TPVSET (SC)	280V $\pm$ 7V	Fixed
Vad	TPVAD (SC)	-105V $\pm$ 1V	VR6600 (SC)
Vscn	TPVSCN (SC)	Vad+140V $\pm$ 4V	Fixed
Vda	TPVDA (SS)	75V $\pm$ 1V	Fixed

*See the Panel label.

Panel Label



Initialization Pulse Adjust

1. Input the White signal to plasma video input.
2. Set the picture controls as follows.
Picture menu : Vivid
Picture : +25
Aspect : Full
3. Connect Oscilloscope to TPSC1 (T2) and adjust VR6602 for 195+10 μ Sec.

	Test point	Volume	Level
T2	TPSC1 (SC)	VR6602 (SC)	195 $\pm$ 10 μ Sec

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Panasonic ideas for life

TH-58PX60U and TH-58PX600U Driver Setup Adjustment

Item / Preparation

1. Input a white signal to plasma video input.
2. Set the picture controls as follows.
Picture menu: Vivid
Aspect: Full

Caution

1. First perform Vsus adjustment.
2. The Confirmation of Vscn voltage should be performed after the confirmation of Vad adjustment.

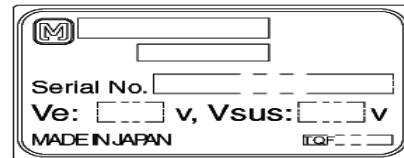
When Vad=-90V, Voltage of Vscn is 50V $\pm$ 4V

Driver Setup Table

Name	Test Point	Voltage	Volume	Remarks
Vsus	TPVSUS (SS)	Vsus $\pm$ 2V	VR251 (P)	*
Ve	TPVE (SS)	Ve $\pm$ 2V	VR6000 (SS)	*
Vset	TPVSET (SC)	260V $\pm$ 7V	Fixed	
Vad	TPVAD (SC)	-90V $\pm$ 1V	VR6600 (SC)	
Vscn	TPVSCN (SC)	Vad+140V $\pm$ 4V	Fixed	
Vda	TPVDA (SS)	75V $\pm$ 1V	Fixed	

*See the Panel label.

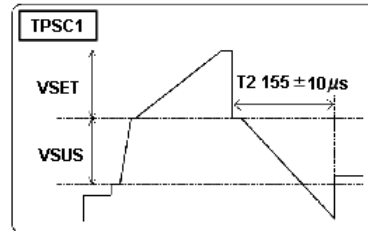
Panel Label



Initialization Pulse Adjust

1. Input the White signal to plasma video input.
2. Set the picture controls as follows.
Picture menu : Vivid
Aspect : Full
3. Connect Oscilloscope to TPSC1 (T2) and adjust VR6602 for 155 $\pm$ 10 μ Sec.

	Test point	Volume	Level
T2	TPSC1 (SC)	VR6602 (SC)	155 $\pm$ 10 μ Sec



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Panasonic ideas for life

TH-65PX600U Driver Setup Adjustment

Item / Preparation

1. Input a white signal to plasma video input.
2. Set the picture controls as follows.
Picture menu: Vivid
Aspect: Full

Caution

1. First perform Vsus adjustment.
2. The Confirmation of Vscn voltage should be performed after the confirmation of Vad adjustment.

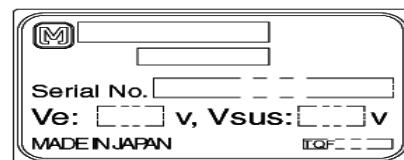
When Vad=-90V, Voltage of Vscn is 50V $\pm$ 4V

Driver Setup Table

Name	Test Point	Voltage	Volume	Remarks
Vsus	TPVSUS (SS)	Vsus $\pm$ 2V	VR251 (P)	*
Ve	TPVE (SS)	Ve $\pm$ 2V	VR6000 (SS)	*
Vset	TPVSET (SC)	240V $\pm$ 7V	Fixed	
Vad	TPVAD (SC)	-90V $\pm$ 1V	VR6600 (SC)	
Vscn	TPVSCN (SC)	Vad+140V $\pm$ 4V	Fixed	
Vda	TPVDA (SS)	72V $\pm$ 1V, -3V	Fixed	

*See the Panel label.

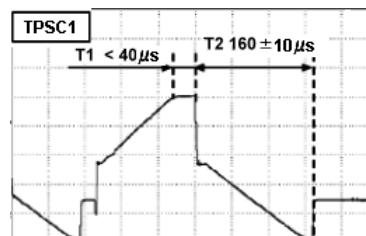
Panel Label



Initialization Pulse Adjust

1. Input the White signal to plasma video input.
2. Set the picture controls as follows.
Picture menu : Vivid
Aspect : Full
3. Connect Oscilloscope to TPSC1. Check that the flat section is less than 40 μ Sec and adjust VR6602 for 160+10 μ Sec.

	Test point	Volume	Level
T1	TPSC1 (SC)	-----	< 40 μ Sec
T2	TPSC1 (SC)	VR6602 (SC)	160 $\pm$ 10 μ Sec

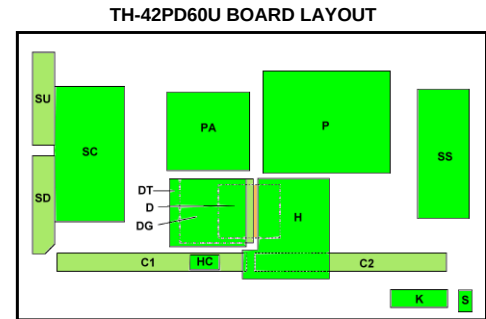


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Panasonic ideas for life

TH-42PD60U BOARD LAYOUT AND PART NUMBERS

BOARD NAME	PART NUMBER	BOARD DESCRIPTION
DT	TNAG168S	ATSC Interface
H	TNPA3769ABS	AV Terminal, AV Switch
HC	TNPA3855S	Jig Connection
DG	TNPA3903BDS	Digital Signal Processor, Micom, HDMI Interface
PA	TXNPA1BLTUJ	DC-DC Converter, Speaker out, Audio AMP, Fan Control
C1	TXNC11ZQTUJ	Data Driver (Lower Right)
C2	TXNC21ZQTUJ	Data Driver (Lower Left)
D	TNPA3932ABS	Format Converter, Plasma AI, Sub-Field Processor
P	TXN/P1ZQTU	Power Supply
SC	TXNSC1ZQTUJ	Scan Drive
SD	TXNSD1ZQTUJ	Scan out (Lower)
SS	TXNSS1ZQTUJ	Sustain Drive
SU	TXNSU1ZQTUJ	Scan out (Upper)
K	TNPA3603AES	Front Terminal
S 1	TNPA3604ACS	Key Switch
DT	TNAG168S	ATSC Interface
H	TNPA3769ABS	AV Terminal, AV Switch
HC	TNPA3855S	Jig Connection

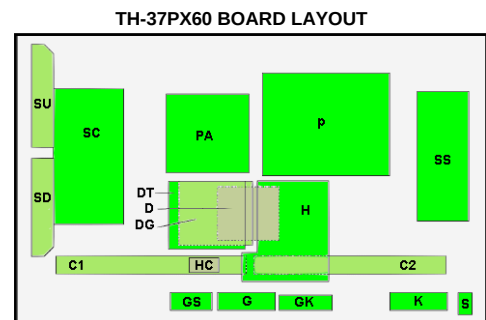


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Panasonic ideas for life

TH-37PX60U BOARD LAYOUT AND PART NUMBERS

BOARD NAME	PART NUMBER	BOARD DESCRIPTION
DT	TNAG167S	ATSC Interface
H	TNPA3769S	AV Terminal, AV Switch
HC	TNPA3855S	Jig Connection
DG	TNPA3903BAS	Digital Signal Processor, Micom, HDMI Interface
PA	TXNPA1BJTUJ	DC-DC Converter, Speaker out, Audio AMP, Fan Control
C1	TXNC11BKJTUJ	Data Driver (Lower Right)
C2	TXNC21BKJTUJ	Data Driver (Lower Left)
D	TNPA3810AFS	Format Converter, Plasma AI, Sub-Field Processor
P	TXN/P1BKJTU	Power Supply
SC	TXNSC1BKJTUJ	Scan Drive
SD	TXNSD1BKJTUJ	Scan out (Lower)
SS	TXNSS1BKJTUJ	Sustain Drive
SU	TXNSU1BKJTUJ	Scan out (Upper)
G	TNPA3764ADS	Front Terminal
GK	TNPA3965ACS	Key Switch
GS	TNPA3853ABS	SD Card Slot
K	TNPA3762AGS	Remote receiver, Power LED
S	TNPA3964ABS	Power Switch

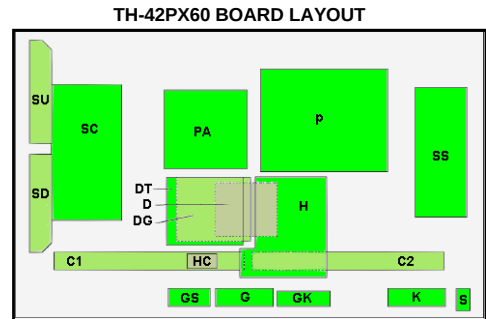


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Panasonic ideas for life

TH-42PX60U BOARD LAYOUT AND PART NUMBERS

BOARD NAME	PART NUMBER	BOARD DESCRIPTION
DT	TNAG167S	ATSC Interface
H	TNPA3769S	AV Terminal, AV Switch
HC	TNPA3855S	Jig Connection
DG	TNPA3903BBS	Digital Signal Processor, Micom, HDMI Interface
PA	TXNPA1BJTUJ	DC-DC Converter, Speaker out, Audio AMP, Fan Control
C1	TXNC11BJTUJ	Data Driver (Lower Right)
C2	TXNC21BJTUJ	Data Driver (Lower Left)
D	TNPA3810AHS	Format Converter, Plasma AI, Sub-Field Processor
P	TXN/P1BJTUJ	Power Supply
SC	TXNSC1BJTUJ	Scan Drive
SU	TXNSU1BJTUJ	Scan out (Upper)
SD	TXNSD1BJTUJ	Scan out (Lower)
SS	TXNSS1BJTUJ	Sustain Drive
K	TNPA3762AG	Remote receiver, Power LED
S	TNPA3964AB	Power Switch
G	TNPA3764AD	Front Terminal
GK	TNPA3965AC	Key Switch
GS	TNPA3853AB	SD Card Slot

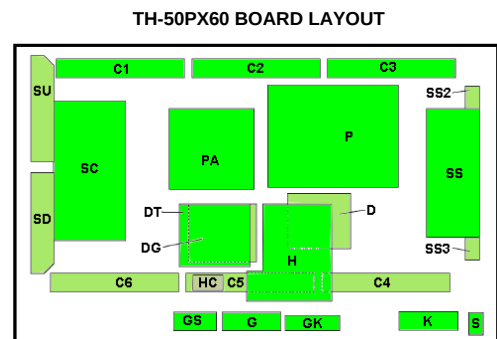


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TH-50PX60U BOARD LAYOUT AND PART NUMBERS

BOARD NAME	PART NUMBER	BOARD DESCRIPTION
DT	TNAG167S	ATSC Interface
H	TNPA3769S	AV Terminal, AV Switch
HC	TNPA3855S	Jig Connection
DG	TNPA3903BCS	Digital Signal Processor, Micom, HDMI Interface
PA	TXNPA1BJTUJ	DC-DC Converter, Speaker out, Audio AMP, Fan Control
P	ETXMM610MEF	Power Supply
C1	TXNC11BHTUJ	Data Driver (Upper Right)
C2	TXNC21BHTUJ	Data Driver (Upper Center)
C3	TXNC31BHTUJ	Data Driver (Upper Left)
C4	TXNC41BHTUJ	Data Driver (Lower Left)
C5	TXNC51BHTUJ	Data Driver (Lower Center)
C6	TXNC61BHTUJ	Driver (Lower Right)
D	TNPA3820ACS	Format Converter, Plasma AI, Sub-Field Processor
SC	TXNSC1BHTUJ	Scan Drive
SD	TXNSD1BHTUJ	Scan Out (Lower)
SS2	TNPA3829S	Sustain Connector (Upper)
SS	TXNSS1BHTUJ	Sustain Drive
SS3	TNPA3830S	Sustain Connector (Lower)
SU	TXNSU1BHTUS	Scan Out (Upper)
G	TNPA3764ADS	Front Terminal
GK	TNPA3965ACS	Key Switch
GS	TNPA3853ABS	SD Card Slot
K	TNPA3762AGS	Remote receiver, Power LED
S	TNPA3964ABS	Power Switch

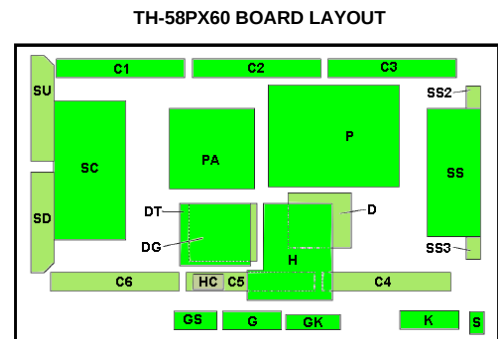


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TH-58PX60U BOARD LAYOUT AND PART NUMBERS

BOARD NAME	PART NUMBER	BOARD DESCRIPTION
DT	TNAG167S	ATSC Interface
H	TNPA3769S	AV Terminal, AV Switch
HC	TNPA3855S	Jig Connection
DG	TNPA3903BLS	Digital Signal Processor, Micom, HDMI Interface
PA	TXNPA1BJTUE	DC-DC Converter, Speaker out, Audio AMP, Fan Control
P	ETXMM611MEHS	Power Supply
C1	TXNC11DNTUJ	Data Driver (Upper Right)
C2	TXNC21DNTUJ	Data Driver (Upper Center)
C3	TXNC31DNTUJ	Data Driver (Upper Left)
C4	TXNC41DNTUJ	Data Driver (Lower Left)
C5	TXNC51DNTUJ	Data Driver (Lower Center)
C6	TXNC61DNTUJ	Driver (Lower Right)
D	TNPA3820ACS	Format Converter, Plasma AI, Sub-Field Processor
SC	TXNSC1DNTUJ	Scan Drive
SD	TXNSD1DNTUE	Scan Out (Lower)
SS2	TNPA3841S	Sustain Connector (Upper)
SS	TXNSS1DNTUJ	Sustain Drive
SS3	TNPA3842S	Sustain Connector (Lower)
SU	TXNSU1DNTUJ	Scan Out (Upper)
G	TNPA3764ADS	Front Terminal
GK	TNPA3965ACS	Key Switch
GS	TNPA3853ABS	SD Card Slot
K	TNPA3762AGS	Remote receiver, Power LED
S	TNPA3964ABS	Power Switch

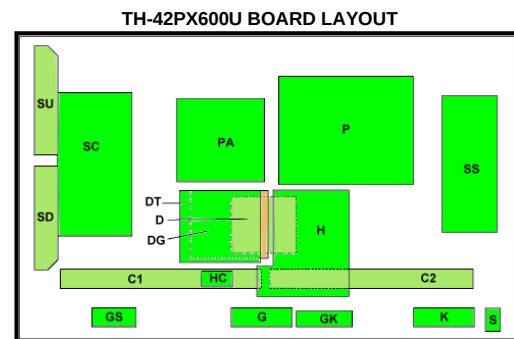


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TH-42PX600U BOARD LAYOUT AND PART NUMBERS

BOARD NAME	PART NUMBER	BOARD DESCRIPTION
DT	TNAG166S	ATSC Interface
H	TNPA3769S	AV Terminal, AV Switch
HC	TNPA3855E	Jig Connection
DG	TNPA3903BES	Digital Signal Processor, Micom, HDMI Interface
PA	TXNPA1BETUJ	DC-DC Converter, Speaker out, Audio AMP, Fan Control
P	TXN/P1BFTU	Power Supply
C1	TXNC11BJTUJ	Data Driver (Lower Right)
C2	TXNC21BJTUJ	Data Driver (Lower Left)
D	TNPA3810AHS	Format Converter, Plasma AI, Sub-Field Processor
SC	TXNSC1BJTUJ	Scan Drive
SD	TXNSD1BJTUJ	Scan Out (Lower)
SS	TXNSS1BJTUJ	Sustain Drive
SU	TXNSU1BJTUJ	Scan Out (Upper)
G	TNPA3764ACS	Front Terminal
GK	TNPA3965ABS	Key Switch
GS	TNPA3917ABS	SD Card Slot
K	TNPA3762ABS	Remote receiver, Power LED
S	TNPA3964ABS	Power Switch

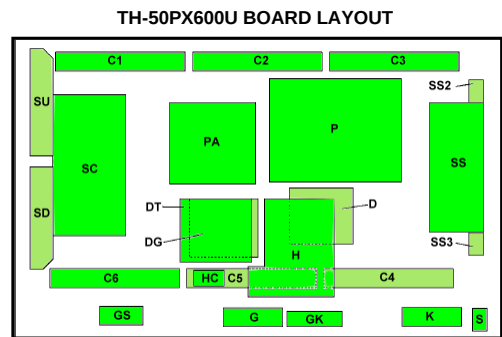


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TH-50PX600U BOARD LAYOUT AND PART NUMBERS

BOARD NAME	PART NUMBER	BOARD DESCRIPTION
DT	TNAG166S	ATSC Interface
H	TNPA3769ACE	AV Terminal, AV Switch
HC	TNPA3855S	Jig Connection
DG	TNPA3903BFS	Digital Signal Processor, Micom, HDMI Interface
PA	TXNPA1BETUJ	DC-DC Converter, Speaker out, Audio AMP, Fan Control
P	ETXMM610MEF	Power Supply
C1	TXNC11BHTUJ	Data Driver (Upper Right)
C2	TXNC21BHTUE	Data Driver (Upper Center)
C3	TXNC31BHTUE	Data Driver (Upper Left)
C4	TXNC41BHTUE	Data Driver (Lower Left)
C5	TXNC51BHTUE	Data Driver (Lower Center)
C6	TXNC61BHTUJ	Driver (Lower Right)
D	TNPA3820ACS	Format Converter, Plasma AI, Sub-Field Processor
SC	TXNSC1BHTUJ	Scan Drive
SD	TXNSD1BHTUE	Scan Out (Lower)
SS2	TNPA3829S	Sustain Connector (Upper)
SS	TXNSS1BHTUJ	Sustain Drive
SS3	TNPA3830S	Sustain Connector (Lower)
SU	TXNSU1BHTUJ	Scan Out (Upper)
G	TNPA3764ACS	Front Terminal
GK	TNPA3965ABS	Key Switch
GS	TNPA3917ABS	SD Card Slot
K	TNPA3762ABS	Remote receiver, Power LED
S	TNPA3964ABS	Power Switch

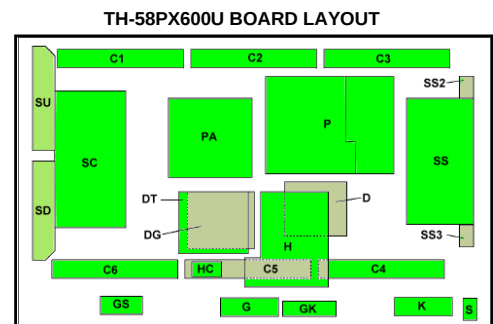


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TH-58PX600U BOARD LAYOUT AND PART NUMBERS

BOARD NAME	PART NUMBER	BOARD DESCRIPTION
DT	TNAG166S	ATSC Interface
H	TNPA3769ACS	AV Terminal, AV Switch
HC	TNPA3855S	Jig Connection
DG	TNPA3903BS	Digital Signal Processor, Micom, HDMI Interface
PA	TXNPA1BETUJ	DC-DC Converter, Speaker out, Audio AMP, Fan Control
P	ETXMM611MEH	Power Supply
C1	TXNC11DNTUJ	Data Driver (Upper Right)
C2	TXNC21DNTUJ	Data Driver (Upper Center)
C3	TXNC31DNTUJ	Data Driver (Upper Left)
C4	TXNC41DNTUJ	Data Driver (Lower Left)
C5	TXNC51DNTUJ	Data Driver (Lower Center)
C6	TXNC61DNTUJ	Driver (Lower Right)
D	TNPA3820AHS	Format Converter, Plasma AI, Sub-Field Processor
SC	TXNSC1DNTUJ	Scan Drive
SD	TXNSD1DNTUJ	Scan Out (Lower)
SS2	TNPA3841S	Sustain Connector (Upper)
SS	TXNSS1DNTUJ	Sustain Drive
SS3	TNPA3842S	Sustain Connector (Lower)
SU	TXNSU1DNTUJ	Scan Out (Upper)
G	TNPA3764ACS	Front Terminal
GK	TNPA3965ABS	Key Switch
GS	TNPA3917ABS	SD Card Slot
K	TNPA3762ABS	Remote receiver, Power LED
S	TNPA3964ABS	Power Switch



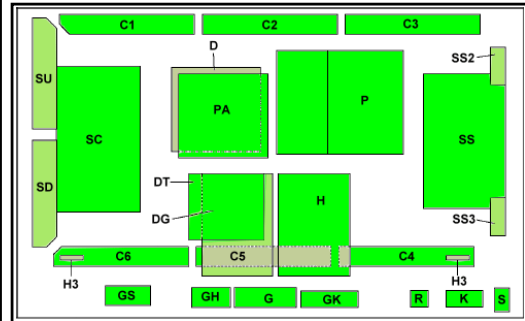
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TH-65PX600U BOARD LAYOUT AND PART NUMBERS

BOARD NAME	PART NUMBER	BOARD DESCRIPTION
DT	TNAG171S	ATSC Interface
H	TZRNA03DRTU	AV Terminal, AV Switch
H3	TXAUW03DRTU	Speaker Terminal
DG	TZRNA02DRTU	Digital Signal Processor, Micom, HDMI Interface
PA	TXNPA1DRTU	DC-DC Converter, Speaker out, Audio AMP, Fan Control
P	ETXMM631MGHS	Power Supply
C1	TXNC11EVTJ	Data Driver (Upper Right)
C2	TXNC21EVTJ	Data Driver (Upper Center)
C3	TXNC31EVTJ	Data Driver (Upper Left)
C4	TXNC41EVTJ	Data Driver (Lower Left)
C5	TXNC51EVTJ	Data Driver (Lower Center)
C6	TXNC61EVTJ	Driver (Lower Right)
D	TZTNP01DRTU	Format Converter, Plasma AI, Sub-Field Processor
SC	TXNSC1EVTJ	Scan Drive
SD	TXNSD1EVTJ	Scan Out (Lower)
SS2	TNPA4013	Sustain Connector (Upper)
SS	TXNSS1EVTJ	Sustain Drive
SS3	TNPA4014	Sustain Connector (Lower)
SU	TXNSU1EVTJ	Scan Out (Upper)
G	TXN/G1DRTU	Front Terminal
GK	TXNGK1DRTU	Key Switch
GS	TXNGS1DRTU	SD Card Slot
K	TXN/K1DRTU	Remote receiver, Power LED
GH	TXNGH1DRTU	HDMI Interface
R	TXN/R1DRTU	Remote receiver
S	TXN/S1DRTU	Power Switch

TH-65PX600U BOARD LAYOUT



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